



*Weather*

**WEATHER SUPPORT**

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Supersedes 15AWI 15-101, 06 January 2004

Pages: 76

Distribution: F

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This instruction implements Air Force Policy Directive (AFPD) 15-1, *Atmospheric and Space Environmental Support*, Air Force Strategic Plan on Weather Reengineering (8 Aug 97; Air Force Instruction (AFI) 110-229, *Responding to Severe Weather Events*; AFI 15-114, *Weather Support Evaluation*, AFI 15-118, *Requesting Specialized Weather Support*; Air Force Manual (AFMAN) 15-111, *Surface Weather Observations*; AFMAN 15-124, *Meteorological Codes*; AFMAN 15-129, *Aerospace Weather Operations*; AFI 15-128, *Aerospace Weather Operations – Roles and Responsibilities*; and AFMAN 15-135, *Combat Weather Team Operations*. It establishes responsibilities and weather support procedures. It provides general information for weather services, including weather observations and forecasts; weather warnings, watches, and advisories; space weather supported services and dissemination of information; specialized and reciprocal support. It applies to units assigned to the 15th Airlift Wing (15 AW) and subordinate units, and units assigned or attached to, or supported by Hickam Air Force Base (AFB). This publication applies to the Air National Guard (ANG) and the Air Force Reserve Command (AFRC) and their units.

**SUMMARY OF REVISIONS**

**This document is substantially revised and must be completely reviewed.**

The 17th Operational Weather Squadron (17 OWS) assumes all weather support responsibility for the 15 AW, subordinate units, and units assigned or attached to, or supported by Hickam AFB.

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## Chapter 1

### GENERAL INFORMATION

**1.1. Concept of Operation.** The 17 OWS will provide weather support to the 15 AW and units assigned, attached to, or associated with the 15 AW. 17 OWS operates 24 hours a day, 7 days a week, 365 days a year. Weather services are provided for military, or military-related use only.

1.1.1. The 17 OWS is aligned under Headquarters Pacific Air Forces Directorate of Operations (HQPACAF/DO) and the 502<sup>nd</sup> Air Operations Group (502 AOG), in effect making the 17 OWS a tenant unit of the 15 AW. Therefore, weather support for the 15 AW is provided by the 17 OWS in a unique arrangement. The 17 OWS and 15 AW have a Memorandum of Understanding (MOU #FB5260-01066-990) that states the 17 OWS will provide all required weather support to the 15 AW and units assigned, attached, or associated with the 15 AW. The mission for the 15 AW is as follows: Provides command functions to operate and maintain Hickam AFB, Johnston Atoll Airfield, and Bellows AFS while supporting 140 associate and tenant units in Hawaii and throughout the Pacific Theater. Provides airlift for the Commander U.S. Pacific Command and the Commander, Pacific Air Forces. Ensures world-class en route support, maintains operationally ready forces, and provides superior customer support.

1.1.2. With the implementation of AFPD 15-1 *Atmospheric and Space Environmental Support, Air Force Strategic Plan on Weather Reengineering*, and the new AFI 15-128, *Aerospace Weather Operations Roles and Responsibilities*, the 17 OWS was assigned the Area Of Responsibility (AOR) including the majority of the Pacific Ocean from the west coast of North America to the east coast of China and S Africa (See [Attachment 2](#)). The mission of the 17 OWS includes weather support for this entire AOR in support of all PACAF assets. Along with this AOR came the responsibility to support the 15 AW and all its tenant units. With no Combat Weather Team (CWT) on Hickam, which would provide tailored weather support to the 15 AW, the 17 OWS assumed that responsibility. The 17 OWS has designated the WXO flight to be a liaison between the 15 AW and 17 OWS, to coordinate and arrange all weather support required by the 15 AW and units assigned, attached, or associated with the 15 AW.

1.1.3. With the vast AOR that the 17 OWS is responsible for, there is a large number of products made available on the 17 OWS website which are not tailored specifically for the use of the 15 AW but are available for their use.

**1.2. 17 OWS AOR:** See [Attachment 2](#) for diagram.

**1.3. Duty Priorities.** These duty procedures will be performed by the 17 OWS Regional Operations floor with the 15 AW Liaison Staff coordinating support for 15 AW customers.

1.3.1. Perform Emergency War Order (EWO) taskings

1.3.2. Respond to aircraft/ground emergencies

1.3.3. Execute OWS evacuation

1.3.4. Provide products and services in support of combat operations, contingencies, and Military Operations Other Than War (MOOTW)

1.3.5. Provide airborne aircrew support /respond to Pilot-to-Metro Service (PMSV) contacts

- 1.3.6. Provide resource protection products (forecast weather watches, warnings, advisories, etc.)
- 1.3.7. Severe Weather Action Procedures (SWAP) operations
- 1.3.8. Transmit Pilot Reports (PIREPS) and Air Reports (AIREPS) longline
- 1.3.9. Prepare and disseminate peacetime/exercise regional and operational-level graphics and alpha-numeric products
- 1.3.10. Perform coordinated Meteorological Watch (METWATCH) support
- 1.3.11. Prepare and disseminate Terminal Aerodrome Forecasts (TAFS)
- 1.3.12. Produce and disseminate Mission Execution Forecasts (MEFS)
- 1.3.13. Provide scheduled flight weather MEFS and tactical-level, non-contingency MEFS
- 1.3.14. Provide other aerospace weather products, information, and weather briefings
- 1.3.15. Accomplish other routine weather requirements
- 1.3.16. Accomplish recurring training
- 1.3.17. Accomplish administrative tasks

**1.4. Public Release of Weather Information.** All weather information produced by the 17 OWS is “For Official Use Only (FOUO)”. 17 OWS will forward all requests for weather information from non-DOD/public agencies through the 15 AW Public Affairs (15 AW/PA) office. No weather information, real-time or historical will be released without 15AW/PA permission.

**1.5. Operational Support Requirements.**

- 1.5.1. Supported agencies will:
  - 1.5.1.1. Establish and coordinate all weather support requirements and procedures with the 17 OWS.
  - 1.5.1.2. Notify 17 OWS of any changes in support requirements, along with any changes to mission impacts due to weather sensitivities.
  - 1.5.1.3. Coordinate with 17 OWS for required weather training.
  - 1.5.1.4. Utilize 17 OWS Web Page (<https://17ows.hickam.af.mil>) to the greatest extent possible as the first source of weather data. Data provided for Hickam AFB includes current observations (obs), 24-hour forecasts, weather warnings, watches, and advisories, and aviation related planning and route forecasts. (Formats of all text products included in **Attachment 10**) Some portions of the website may require a password depending on the terminal location, please contact the Lead Forecaster at Dedicated Service Network (DSN) 449-8335 or Commercial (COMM) 808-449-8335 for assistance. A SIPRNET website is also maintained by the 17 OWS and mirrors the NIPRNET website.
- 1.5.2. Unit commanders will:
  - 1.5.2.1. Ensure they are informed of critical weather elements affecting their operations. This is accomplished by the coordination of this weather support document and the dissemination of

weather information through established communication procedures as outlined in [Chapter 4](#), [Chapter 5](#) and [Attachment 3](#).

1.5.2.2. Ensure procedures are established within their organization to adequately respond to disseminate weather information.

1.5.2.3. Review this instruction at least annually for any changes in support requirements. Coordinate these changes with 17 OWS.

## 1.6. Back-Up Support.

1.6.1. In the event of an evacuation by the 17 OWS, weather support will be provided from the 17 OWS alternate site located at the Joint Typhoon Warning Center (JTWC), Makalapa Compound, Pearl Harbor. Primary communication will be via telephone and fax. Due to the current set-up of the 17 OWS website, it can only be updated from the 17 OWS original location of Bldg 1102. Therefore, no updates will be made to the website while evacuated. Primary dissemination of products will be via fax. Duty Priorities during evacuation are as follows:

1.6.1.1. Perform OWS Emergency War Order (EWO) Taskings

1.6.1.2. Execute OWS Evacuation

1.6.1.3. Provide Products and Services in Support of Combat, Contingency Operations

1.6.1.4. Provide Airborne Aircrew Support

1.6.1.5. Provide Resource Protection Products (forecast weather watches, warnings, advisories, etc.)

1.6.1.6. Prepare and Disseminate Peacetime/Exercise Regional and Operational-level Graphics and Alphanumeric Products

1.6.1.7. Prepare and Disseminate TAFS

1.6.1.8. Provide Scheduled Flight Weather MEFS and Tactical-level, Non-contingency MEFS

1.6.1.9. Provide other Aerospace Weather Products, Information, and Weather Briefings

1.6.1.10. Accomplish other Routine Weather Requirements

1.6.1.11. Accomplish Recurring Training

1.6.1.12. Accomplish Administrative Tasks

1.6.2. The phone number for the alternate location is 474-5300; the fax number is 474-2411. A fax notification will be sent to the following agencies, ([Table 1.1.](#)) upon 17 OWS evacuation, if time or safety does not permit, then the fax will be sent upon arrival to JTWC.

**Table 1.1. Telephone Numbers**

<b>AGENCY</b>	<b>FAX</b>
15 AW CP	448-6900
USARPAC CP	424-3000/1
735 AMS	449-6950
HIANG	448-2654
25 ASOS/DOW	656-1017
HRFC	449-0905
AFWA	312-271-3244
WAAF CWT	656-1016
25 ID IOC	665-8763
WAAF Tower	656-1062
AVN BDE SDO	656-2743
WAAF Flight OPS	656-1282
B214/225 OPS	656-2548
68th Med	656-8290
POSC Director	448-8672
AMOCC	448-8888

1.6.3. Another fax will be sent to the 15 AW Command Post (15 AW/CP) and 735<sup>th</sup> Air Mobility Squadron/Air Mobility Command Center (735 AMS/AMCC) when the 17 OWS returns to their normal operations area.

1.6.4. Primary communication will be done by telephone and fax.

**1.7. Contacting the 17<sup>th</sup> Operational Weather Squadron (17 OWS).** The Lead Forecaster can be reached by phone at DSN 449-8335 or commercial 808-449-8335 and Fax DSN 449-8336 or commercial 808-449-8336. Weather Support Questions should be directed to the 17 OWS Operations Flight (17 OWS/WXO) and can be reached at DSN 449-8343 or commercial 808-449-8343.

## Chapter 2

### WEATHER OBSERVING

**2.1. General.** The Federal Aviation Administration (FAA) is responsible for weather observations at Hickam AFB/Honolulu International Airport 24 hours a day, 7 days a week, 365 days a year. The FAA's primary system is an Automated Surface Observing System (ASOS) to take Meteorological Aviation Routine (METAR), Special (SPECI), and local obs In Accordance With (IAW) Federal Meteorological Handbook 1, to include all published minimums listed in **Table 2.1**. See **Attachment 10** for formats of observations, weather phenomenon, forecasts and Pilot Reports (PIREPS). There is only one ASOS at Honolulu. The primary sensor group is located near the approach of runway 08L. There is a backup sensor group consisting of ceiling and visibility only located near runway 04R. A certified, contracted observer augments the ASOS and provides backup when required. The National Weather Service (NWS) owns the ASOS and has full responsibility for maintenance. Reference National Weather Service Instruction 30-211, *Maintenance, Logistics and Facilities Systems/Equipment Maintenance, NWSPD 30-2.1.1*. The 17 OWS will call the NWS at 832-3259 as soon as possible for any maintenance required to the Video Display Unit (VDU) in its possession. If for any reason the VDU breaks to the point that it can't be repaired, the NWS will replace the terminal.

**2.2. SPECI Observation Reporting Requirements.** SPECI obs are taken to report significant changes in weather elements. The NWS's ASOS, augmented by an FAA contract observer, takes, disseminates, and records a SPECI to report significant changes in weather elements. In accordance with AFMAN 15-111 a SPECI must be taken when criteria, as indicated below in **Table 2.1**, are observed.

**Table 2.1. Special Observation Criteria**

Phenomena:	Does the Following:
1. Ceiling	Forms or dissipates below, decreases to less than or, if below, increases to equal or exceed (in feet above ground): 3000, 1500, 1000, , 700, 500, and 300
2. Prevailing Visibility	Decreases to less than or, if below, increases to equal or exceed (in statute miles, SM): 3, 2, 1
3. A layer of clouds or obscuring phenomena aloft	Is observed below 800 feet and no layer aloft was reported below this height in the previous METAR, Record Special, or Special observation
4. Tornado or Funnel Cloud	Is observed or disappears from sight
5. Thunderstorm	a. Begins (When thunder is first heard or lightning first seen in the vicinity of the observer. Not required to report the beginning of a new thunderstorm if one is currently being reported) b. Ends (15 minutes after last occurrence of criteria for a thunderstorm)
6. Precipitation	a. Ice Pellets begins, ends or changes in intensity b. Hail begins or ends c. Freezing precipitation begins, ends, or changes intensity d. Any other type of precipitation begins or ends
7. Wind Squall	Wind speed increases at least 16 knots, and is sustained at 22 knots or more for at least a minute. A SPECI is not required to report a squall if one is currently in progress
8. Wind Shift	The wind direction changes by 45 degrees or more in less than 15 minutes with sustained winds of 10 knots, or more, throughout the wind shift
9. Runway Conditions	Upon receipt, transmit runway condition readings (RCR) as a SPECI or append to a METAR or SPECI being taken at the time of notification. (This non-weather criterion is treated as a "SPECI" only for purposes of timely longline reporting.)
10. Tower Visibility	When Tower visibility or Weather's visibility is less than 4 statute miles and they differ by a reportable SPECI criteria value, transmit a SPECI with Tower visibility as a remark.
11. Volcanic Ash	When first observed
12. Real-World Nuclear Accident	When notified of a real-world nuclear accident
13. Resumption of observing services	Upon returning to duty following a break in hourly coverage if a METAR was not filed as scheduled during that 15-minute period
14. Miscellaneous	Any other meteorological situation, which, in the opinion of the weather person, is critical to the safety of aircraft operation.

**2.3. Limitations:**

2.3.1. The FAA does not provide Runway Visual Range (RVR) information on observations and does not take special observations for changes in RVR.

2.3.2. The ASOS does not have the capability to take a SPECI observation for a real-world nuclear accident as required in AFMAN 15-111.

**2.4. Weather Radar.** The FAA owns four Weather Surveillance Radar – 88 Doppler (WSR-88D) Next Generation Radar (NEXRAD) systems across Hawaii. The 17 OWS is one of 5 establishments on the Hawaiian Islands with dedicated and dial-in connectivity to any of the four radar units. The primary radar for Hickam AFB is located on the island of Molokai (NWS Site ID: PHKM). Additional antenna locations are on the islands of Kauai, Maui, and Hawaii. The four WSR-88Ds are under the operational control of the NWS while the FAA is responsible for maintenance of the radars. Reference Memorandum of Understanding # HIPSMO-001-009, between the NWS Pacific Region, Department of Defense (DOD), and FAA for the Operational Use and Maintenance of FAA-owned Doppler Weather Surveillance Radars in the Hawaiian Islands.

## Chapter 3

### WEATHER PRODUCTS

**3.1. General.** The NWS produces terminal forecasts through the Weather Forecast Office (WFO) Honolulu at the University of Hawaii, Manoa Campus. WFO Honolulu issues four forecasts daily under the International Civil Aviation Organization (ICAO) identifier PHNL. The 17 OWS is responsible for aviation forecasts along with forecasts for any weather phenomenon, which may impact the 15 AW, and it's tenant units personnel or equipment, but does not produce the official TAF.

**3.2. 17 OWS Forecast Services.** The NWS issues the official Terminal Aerodrome Forecast (TAF) for Honolulu International Airport/Hickam AFB. The 17 OWS does issue TAFs for Air Force installations within the PACAF AOR, but does not issue any for 15 AW specific agencies or tenant units. The 17 OWS issues a 5-day forecast for Hickam to apprise the local Hickam community of weather conditions expected at Hickam AFB. This forecast includes sky conditions, visibility, significant weather elements, winds, and temperatures. The 5-day forecast is issued once a day prior to 0300L, is available on the 17 OWS web site, and is *not amended*. The 5-day forecast is used by all agencies for situational awareness purposes and is never used as an aviation forecast. Back-up dissemination method is via fax.

**3.3. Local Flying Area Forecast Services.** The 17 OWS issues an area forecast twice daily covering the Hawaiian Air Defense Identification Zone (ADIZ). This bulletin, the Hawaiian Air Defense Division (HADD) Bulletin, includes information on winds at various flight levels (surface through 50,000 ft), contrails, freezing level, tropopause height, maximum wind band, cloud layers, supersonic conditions, fighter index for thermal stress and ADIZ hazards (See [Attachment 4](#)). The HADD bulletin is updated no later than 0500L and 1800L each day and is posted to the 17 OWS web site. The bulletin is amended for hazards and also may be amended for "non-amendable" situations, i.e. supersonic forecasts or fighter index. This product is for planning purposes only and no aircrew should consider this a brief. A 175-1 or verbal brief must be acquired by the aircrew before takeoff. Additionally, a link to the local sea state conditions, PHNL take-off data and a current ADIZ Meteorological Satellite (METSAT) image is available on the HADD located on the 17 OWS web site. Back-up dissemination method for the HADD is via fax.

**3.4. Aviation Weather Support.** The 17 OWS provides the following services to aircraft departing from the 17 OWS AOR:

3.4.1. Weather briefings. 17 OWS will provide Flight Weather Briefings (FWB) for all flights whose departing airfield is located in the 17 OWS AOR (See [Attachment 2](#)). FWB's are available via the web, e-mail, verbally, or via fax machine. Aircrews should notify the 17 OWS via the 17 OWS web site

(<https://17ows.hickam.af.mil>) (or telephone) as soon as possible when this support is required and provide take-off time(s), destination(s), estimated time(s) of arrival, flight level(s), call sign(s) of aircraft, and request(s) for Distinguished Visitor (DV) packages. Aircrews may establish personal flight profiles on the 17 OWS web site for later use when requesting briefings.

3.4.1.1. Aircrew should request and retrieve aircrew briefings via the 17 OWS web site by clicking on the Request Briefings link located in the quick links section of the 17 OWS home page. This will direct the aircrew to a page where they can select their mission/unit. If individual's unit/mission is not already available on our website, select Transient/Other. Once the mission/unit is

entered, the aircrew will be directed to fill out a form with all required information (reference paragraph 3.4.1.) The aircrew must be sure to click on a delivery method (e-mail, phone, fax), and then if the aircrew will be requesting more briefings from the 17 OWS, the option to create a mission profile will be given. If for any reason an aircrew finds themselves unable to connect with the 17 OWS website, is having difficulty with the form, or is requesting a verbal brief, please call the 17 OWS Pilot Briefer at 449-8333.

3.4.1.2. Information passed for a verbal weather briefing will be kept on a locally generated form.

3.4.1.3. Attached to each briefing will be visual charts to aid the aircrew in their understanding of their weather brief, and also a feedback form. Feedback is essential to improve the performance of the 17 OWS forecasters and Pilot Briefer and therefore it is imperative that aircrews respond with feedback. Instructions on how to complete and where to send the feedback form are on the form itself.

3.4.2. PMSV and AIREPS contact is available 24 hours a day on frequency 346.6 MHz and via Airways (use call sign Letterman). The 17 OWS solicits PIREPS and AIREPS from aircrews and transmits significant reports to other using agencies. AIREP forms (AF Form 72) are available to all aircrews departing Hickam and flying outside the local flying areas in the base operations flight planning room. These forms are completed enroute and debriefed at the destination weather station. The 15 AW Command Post (15 AW/CP) and 15<sup>th</sup> Operation Support Squadron (15 OSS/OSA), specifically Hickam Advisory Tower, must make every effort to pass along any PIREPS, and AIREPS they may receive. The 17 OWS is interested in all PIREPS and AIREPS, not just severe, as the information is transmitted to Air Force Weather Agency (AFWA) to develop/update computer flight plans. Once again, PIREPS and AIREPS are essential to improve the performance of the 17 OWS forecasters and Pilot Briefer.

3.4.3. Flight and Route Metwatch. 17 OWS performs a route and flight metwatch for all flights departing Hickam AFB for which a flight weather briefing was given by the 17 OWS. In the event weather conditions change significantly enough (from those briefed at departure) to affect flight safety, the 17 OWS will make every attempt to contact the aircraft in flight by any means available.

**3.5. Turbulence Forecasts.** The 17 OWS will issue Low Level Turbulence Forecasts for the Hawaiian Islands. This product can be found on the 17 OWS website under Hawaii Installations and is updated once daily. This product will be used for planning purposes only.

**3.6. DV Packages.** On request, 17 OWS will provide DV weather packages to include a horizontal weather depiction, a METSAT image, and a plain language forecast for departure, enroute, and arrival weather. Aircrews requesting this service should provide as much advance notice as possible before departing Hickam AFB. Requests can be made in conjunction with a flight weather briefing request by typing in the request in the remarks section of the request page. DV packages can be sent via e-mail to base operations <mailto:15oss.osa@hickam.af.mil> or personal e-mail if designated, faxed to a specified number or sent across the Internal Facsimile System (FACSys) program.

**3.7. Wind Forecasts.** 17 OWS will issue wind forecasts for Hickam AFB according to PACAFI 15-101 when tropical systems are threatening Hickam AFB or Johnston Atoll. The bulletin header for these forecasts will be WDPN PHIK or WDPN PJON respectively. (See [Attachment 7](#))

**3.8. Aircraft Accident/Incident Investigation.** 17 OWS will arrange for a qualified weather officer to serve as the weather member of investigating boards IAW AFI 91-204 and 15 AW OPLAN 91-1. In the case of a weather-related accident or incident (particularly at Hickam), 17 OWS should be notified as soon as possible to allow timely archival of weather data. Once the 17 OWS Lead Forecaster is notified of the Aircraft mishap via the 15 AW/CP Tactical Communicating Network (TACNET), the weather forecasters will gather/archive all necessary data in accordance with AFI 15-129 (Ref 4.6) and 17 OWS Emergency Action Standard Operating Procedure. The chain of command in the 17 OWS will be notified of any mishaps. If the aircraft was a 15 AW asset, then the wing liaison, WXO, will work as the single point of contact between the 15 AW and the 17 OWS for data exchange. If the aircraft was not a 15 AW asset, the wing liaison is still responsible for keeping the 15 AW Commander (15 AW/CC) informed.

**3.9. Fire Protection.** 17 OWS will support controlled burning exercises, on request, with surface wind forecasts via telephone.

**3.10. Toxic Corridor Calculations.** As a member of the Disaster Control Group (DCG), Bioenvironmental will plot the toxic corridor based on initial inputs by the 17 OWS and on-scene spill data. Once the DCG is operational, CE Readiness will provide on-scene weather data. In the even of system failure, the 17 OWS will provide a *Worst Case Toxic Corridor*, and act as a backup to the 15<sup>th</sup> Civil Engineer Squadron (15/CES/CEX) for weather inputs. (See [Attachment 5](#)) It must be kept in mind that the *Worst Case Toxic Corridor* does not fully reflect a realistic corridor because it does not take into account spill characteristics and is simply an estimate of the ambient air.

**3.11. Space Weather Support and Service.** 17 OWS personnel will evaluate space weather products and brief aircrews if there is a forecasted space weather impact along their route. Supported units may also request space weather as needed. No supported agencies have reported sensitivities to space weather forecasts and observations. Examples of available products are listed below.

- 3.11.1. Ultra High Frequency (UHF) Satellite Communications (SATCOM) Scintillation Climatology and Forecasts
- 3.11.2. Estimated Single-Frequency Global Positioning System (GPS) Error Forecasts
- 3.11.3. High Frequency (HF) Analysis and Forecasts
- 3.11.4. Space Events, Discussion and Summary
- 3.11.5. UHF Impacts
- 3.11.6. All agencies are responsible for notifying the 17 OWS of any changes to their equipment sensitivities with regards to Space Weather Sensitivities.

**3.12. Other Weather Support Services.** The 17 OWS will provide any and all weather support to Hickam AFB and tenant units.

- 3.12.1. 17 OWS will prepare, as required, weather support annexes or appendices to 15 AW plans or operations orders.
- 3.12.2. 17 OWS will provide or arrange for climatological data or studies as required.
- 3.12.3. 17 OWS will provide CDM support as required for both exercise and real world support.

3.12.4. The 17 OWS will disseminate any Tsunami watch or warning issued by the Pacific Tsunami Warning Center (PTWC) to the 15 AW/CP. Further action will be performed by the 15 AW/CP.

3.12.5. The 17 OWS provides weather briefings to a number of customers on a scheduled and unscheduled basis. These briefings provide commanders, staff, operations, and aircrew personnel with valuable weather information for planning and decision-making. Wing staff, warning order, Battle Staff, Commander's Support Staff, flying safety, instrument refresher course, and seasonal briefings are provided routinely upon request and will contain any and all information needed by requesting agency (i.e. Climatology, local and AOR forecasts, space weather, etc).

## Chapter 4

### WEATHER WARNINGS, WEATHER WATCHES AND WEATHER ADVISORIES

**4.1. General.** Certain weather conditions can endanger property or life, pose a safety threat, or adversely affect a supported agency's operation. Via the METWATCH program, 17 OWS monitors observations, forecasts, METSAT and NEXRAD for mission hampering weather conditions and advises support agencies when these conditions are observed or forecast. Weather warnings, watches, and advisories are the vehicles through which supported agencies are notified of these critical weather conditions. 17 OWS provides metwatch support to 15 AW, Hawaii Air National Guard, US Army, and SPACECOM assets throughout the central Pacific.

**4.2. Metwatch Concept.** The purpose of the METWATCH is to provide a controlled and organized approach for weather personnel to maintain situational awareness of the current/future meteorological situation within a designated area(s). A METWATCH will focus on detecting unforecast changes in the weather. These changes include incorrect timing, location, or forecast values (e.g., ceiling too high or low). Upon detecting the unforecast change, weather personnel will notify all supported units and begin the process to amend the forecast product. 17 OWS provides continuous metwatch support to numerous installations. In an effort to overcome the lack of sensing instruments at each location and provide customers with the most accurate, timely information possible, the 17 OWS issues both forecasted and observed weather warnings, watches, and advisories for three locations that affect Hickam AFB units, tenants, or support agencies: Hickam AFB, the island of Oahu, and Johnston Atoll. All 17 OWS weather warnings, watches, and advisories will be available on the 17 OWS web site as shown in [Attachment 8](#).

**4.3. Cooperative Weather Watch Program.** The Cooperative Weather Watch (CWW) program is a mechanism to leverage non-weather personnel in the identification and monitoring of potentially severe weather conditions and to enhance the 17 OWS metwatch program. Through this agreement with the 17 OWS, the Hickam Advisory Tower will advise the 17 OWS of changing weather conditions based on a set of predetermined conditions. The combined effort of the 17 OWS and Hickam Advisory Tower is vital to the enhanced protection of equipment and personnel at Hickam AFB. Hickam Advisory Tower personnel will be trained by the 17 OWS in this process through either an annual training or a trainer will be provided by the 17 OWS at times designated by the Hickam Advisory Tower.

4.3.1. Hickam Advisory Tower personnel will alert the 17 OWS (449-8332) when any of the following occur:

4.3.1.1. Precipitation starts or stops.

4.3.1.2. Wind gusts of 25 knots or greater, when no gusts are forecast.

4.3.1.3. Thunderstorms and/or lightning are initially observed.

4.3.1.4. Rapid decrease of visibility that lowers any sector visibility to below 6 miles.

4.3.1.5. Any weather phenomena that might be considered significant.

4.3.1.6. Provide tower visibility when Control Tower personnel observe their prevailing visibility decrease to less than 4 SM or increase to 4 SM or more. Report all changes when their prevailing visibility at tower level is less than four miles.

4.3.2. Hickam Advisory tower will also perform the following duties in support of the CWW:

- 4.3.2.1. Relay all PIREPS to 17 OWS. (This may be done through 15 OSS/OSA and 15 AW/CP)
- 4.3.2.2. Upon request by 17 OWS perform a PMSV radio check.
- 4.3.2.3. Notify 17 OWS when wind equipment is inoperative or when readings differ from visual references.
- 4.3.2.4. Provide Air Traffic Control indoctrination training to 17 OWS personnel upon request.

**4.4. Warning, Watch, and Advisory Support Abilities:** 17 OWS/WXO coordinates customer desired lead-times (DLT) for weather warnings, watches, and advisories. Customers determine, through looking at their own mission profiles, equipment sensitivities and ability of their people to protect both themselves and their equipment, the time required to protect base resources from various weather threats. This minimum reaction time is the basis for desired lead-time for warnings, watches and advisories and should be coordinated with the 17 OWS/WXO if any changes are necessary. Desired lead times and criteria for Watches and Warnings may deviate from AFMAN 15-135, Table 7.1 *Standard Criteria and Desired Lead-Times for Weather Watches/Warnings* due to customer sensitivities. (Example: Standard Watch for Heavy Rain is > 2" in 12 hours, whereas due to 15AW asset sensitivities, the 17 OWS issues Heavy Rain > 2" in 4 hours.). Current customer sensitivities are documented in [Attachment 6](#).

4.4.1. Supported agencies must understand that False Alarm Rates will increase as the DLT is increased. It is operationally critical that DLTs be confined to the actual minimum reaction time required.

4.4.2. Watch, Warning, Advisory Support Terms Explained:

4.4.2.1. Actual Lead-Time (ALT). The elapsed time between the issuance of a Forecast Weather Advisory or Weather Warning and the first occurrence of the event.

4.4.2.2. Desired Lead-Time (DLT). The minimum amount of advance notice a supported agency needs to react to an advisory or warning (within the limits of state-of-the-art forecast capabilities).

4.4.2.3. False Alarm Rate (FAR). The number of weather warnings and/or advisories verified with positive lead-time divided by the total number of warnings issued. For example: four warnings were issued, one occurred with positive lead-time—FAR is 75%.

4.4.3. Each agency supported has unique needs and therefore do not receive all Watches, Warnings and Advisories. See [Attachment 3](#) for information on which customers receive each Watch, Warning, or Advisory.

4.4.4. Numbering for watches, warnings and advisories: Each watch/warning/advisory will be consecutively numbered by month and watch/warning/advisory number. (Example: Warning MM-###; 12-001, 1<sup>st</sup> Warning issued in December. Each will specify the appropriate tracking number and location for which it is valid, the specific condition, its effect on previous or other watches, warnings, or advisories, and the specific valid period. Examples are illustrated in [Attachment 10](#).

**4.5. Hickam AFB Weather Warnings.** These products are issued when an established weather condition of such intensity as to pose a hazard to property or life is occurring or is expected to occur and for which the supported agency must take protective action. Weather warnings for Hickam AFB are issued for a 5 NM radius from the center of the runway at Honolulu International Airport. Warnings will not be

issued when the specified is in tropical cyclone COR1 (ref paragraph 4.12.). Weather warning criteria and appropriate desired lead times are in [Table 4.1](#).

**Table 4.1. List of Hickam AFB Weather Warning Criteria and Desired Lead Times**

CRITERIA	Desired Lead Time
Tornado/Funnel Cloud/Waterspout	30 minutes
Heavy Rain, 2" or greater in 4 hours	1 hour
Hail, ½" or greater	2 hours
Winds 35-44 knots	1 hour
Winds 45 – 69 knots	2 hours
Lightning/Thunderstorm w/in 5 nm	Observed

4.5.1. Only one non-lightning warning for a particular location will be in effect at any given time; however, a warning may contain more than one warning criteria. Lightning warnings are independent. A lightning warning may exist while another warning for different criteria exists.

**4.6. Hickam AFB Weather Watches.** Weather Watches are special notices to supported agencies alerting them of the potential for weather conditions of intensity posing a hazard to life or property. The weather watch can be thought of as a "heads up" that agencies need to consider making plans to take required protective actions should an actual weather warning be issued later. Watches have longer valid times than warnings and allow alerted customers to “lean forward” in anticipation of a warning being issued. If weather conditions do favor severe weather, or if severe weather is imminent, the watch will be upgraded to a warning. Weather watches for Hickam AFB are issued for a 5 NM radius from the center of the runway at Honolulu International Airport. Watches will not be issued when the specific location is in tropical cyclone COR1 (ref paragraph 4.12.). Weather watch criteria and appropriate desired lead times are in [Table 4.2](#).

**Table 4.2. List of Hickam AFB Weather Watch Criteria and Desired Lead Times**

CRITERIA	Desired Lead Time
Tornado/Funnel Cloud/Waterspout	ASAP
Lightning/Thunderstorms within 5nm	30 minutes
Heavy Rain, 2" or greater in 4 hours	ASAP
Hail, ½" or greater	4 hours
Winds 45kts or greater	<b>4 hours</b>

**4.7. Hickam AFB Weather Advisories.** A weather advisory is a special notice provided to a supported agency when an established weather condition that could affect its operation is occurring or is expected to occur. The 17 OWS issues terminal weather advisories for a 5 NM radius from the center of the runway at Honolulu International Airport and an area weather advisory for thunderstorms in the Hawaiian ADIZ. As defined in [Table 4.3](#)., some advisories are Forecast Weather Advisories (FWAs) and require lead-time notification, while others are Observed Weather Advisories (OWAs), meaning they are issued when con-

ditions are observed. Watches will not be issued when the specific location is in tropical cyclone COR1 (ref paragraph 4.12.).

**Table 4.3. List of Hickam AFB Weather Advisory Criteria and Desired Lead Times**

CRITERIA	Desired Lead Time
Thunderstorms in the ADIZ	As Observed
Low level wind shear	As Observed
Crosswinds, 25kts or greater, Runway 8R/ 26L or 04/22	As Observed
Surface wind 25 to 34kts	30 minutes
Ceiling < 600ft and/or Vis < 2 nm	As Observed

**4.8. Oahu Weather Warnings.** Warnings are issued when an established weather condition of such intensity as to pose a hazard to property or life is occurring or is expected to occur and for which the supported agency must take protective action. Oahu warnings will be issued when the weather condition is expected anywhere on the island other than exclusively at Hickam AFB or Wheeler AAF. Warnings will not be issued when the specific location is in tropical cyclone COR1 (ref paragraph 4.12.). Oahu weather warning criteria and appropriate desired lead times are in **Table 4.4.**

**Table 4.4. List of Oahu Weather Warning Criteria and Desired Lead Times**

CRITERIA	Desired Lead Time
Tornado/Funnel Cloud/Waterspout	30 minutes
Heavy Rain, 2" or greater in 4 hours	1 hour
Hail, 1/2" or greater	2 hours
Winds 45kts or greater	2 hours
Lightning/Thunderstorm w/in 5 nm	As Observed

4.8.1. Weather warnings for Oahu are issued for the Island of Oahu and support the following operations:

- 4.8.1.1. Det 4, 22d Space Operations Squadron, Kaena Point Satellite Tracking Station.
- 4.8.1.2. Air Force Weather Agency/Palehua Solar Observatory.
- 4.8.1.3. Det 1, 15<sup>th</sup> Support Group, Bellows AFS.
- 4.8.1.4. 169 ACWS
- 4.8.1.5. Tripler Army Medical Center
- 4.8.1.6. Ft Derussy

**4.9. Oahu Weather Watches.** Oahu watches are special notices of forecast weather phenomena that alert supported agencies of the potential for mission impacting weather conditions. Weather watches are issued when the potential for severe weather is great enough to warrant concern but not great enough to

warrant a weather warning. Watches have longer valid times than warnings and allow alerted customers to “lean forward” in anticipation of a warning being issued. If weather conditions do favor severe weather, or if severe weather is imminent, the watch will be upgraded to a warning. Watches will not be issued when the specific location is in tropical cyclone COR1 (ref paragraph 4.12.). Oahu weather watch criteria and appropriate desired lead times are in [Table 4.5](#).

**Table 4.5. List of Oahu Weather Watch Criteria and Desired Lead Times**

CRITERIA	Desired Lead Time
Tornado/Funnel Cloud/Waterspout	ASAP
Lightning/Thunderstorms within 5nm	30 minutes
Heavy Rain, 2" or greater in 4 hours	ASAP
Hail, 1/2" or greater	4 hours
Winds 45kts or greater	4 hours

4.9.1. Weather watches for Oahu are issued for the Island of Oahu and support the following operations:

- 4.9.1.1. Det 4, 22d Space Operations Squadron, Kaena Point Satellite Tracking Station.
- 4.9.1.2. Air Force Weather Agency/Palehua Solar Observatory.
- 4.9.1.3. Det 1, 15<sup>th</sup> Support Group, Bellows AFS.
- 4.9.1.4. 169 ACWS
- 4.9.1.5. Tripler Army Medical Center
- 4.9.1.6. Ft Derussy

**4.10. Johnston Atoll Weather Warnings.** Johnston Atoll warnings are issued when an established weather condition of such intensity as to pose a hazard to property or life is occurring or is expected to occur and for which the supported agency must take protective action. Weather warnings for Johnston Atoll are issued for a 5 NM radius from the center of the runway. Johnston Atoll weather warnings will not be issued when the specific location is in tropical cyclone COR1 (ref paragraph 4.12.). Weather warning criteria and appropriate desired lead times are in [Table 4.6](#).

**Table 4.6. List of Johnston Atoll Weather Warning Criteria and Desired Lead Times**

CRITERIA	Desired Lead Time
Heavy Rain, 2" or greater in 4 hours	ASAP
Winds 35kts but less than 45kts	1 hour

**4.11. Severe Weather Action Procedures (SWAP)** In the event of Severe Weather at Hickam AFB or Johnston AFS, the 17 OWS implements their Severe Weather Action Procedures (SWAP) in addition to their normal dissemination of Watches, Warnings and Advisories. Severe weather is considered to be a watch or warning for tornadoes, winds  $\geq 45$  knots, and hail  $\geq \frac{1}{2}$ ", lightning strikes; the NWS issues a severe thunderstorm or tornado watch/warning for Oahu; a Tropical Cyclone is forecasted to be within

300 nm of Oahu in the next 24 hrs; or any other situation which, in the opinion of the installation forecaster requires additional personnel at the 17 OWS. These SWAP procedures calls for an activation of the Severe Weather Action Team (SWAT) which is a recall of essential personnel to the 17 OWS to aid duty forecasters in handling the severe weather. For both Hickam and Johnston the SWAP is purely an internal checklist that the 17 OWS runs to mandate all actions are taken to ensure the safety of all Hickam and Johnston Assets. Supported agencies will see increased communication from the 17 OWS in an effort to keep Senior Base Officials informed of any major changes in the situation (cell movement, actual locations of storms, etc). Reference internal 17 OWS Hickam Installation Forecaster SOP.

#### 4.12. Customer Sensitivities.

Each agency within the 15 AW has its own unique mission and weapons systems (i.e. aircraft, equipment, personnel) and therefore its own unique sensitivities to the Watches, Warnings and Advisories issued by the 17 OWS. Documented in [Attachment 6](#) are customer actions as a result of the dissemination process.

**4.13. Hurricane Support.** The 17 OWS will interpret warnings from the Central Pacific Hurricane Center (CPHC) and the JTWC to generate a WDPN bulletin (See [Attachment 7](#)). A new WDPN will be issued after each JTWC warning or until such time as the tropical cyclone no longer poses a threat to the installations below.

4.13.1. The 17 OWS generates the WDPN bulletin for the following bases:

4.13.1.1. Hickam AFB

4.13.1.2. Andersen AFB, Guam

4.13.1.3. Wake Island

4.13.1.4. Johnston Atoll

(Andersen and Wake are not 15 AW assets but may be of interest to the 15 AW/CC for mission impacts)

4.13.2. The 15 AW Weather Liaison will provide the 15 AW/CC with forecasts of the expected onset, intensity, and duration of winds, and other weather associated with tropical cyclones and will advise the 15 AW/CC regarding the implementation of the COR. The 15 AW Weather Liaison is a member of the Commander's Support Staff (CSS) in accordance with 15 AWI 10-203 and will be included in all Battle Staff Meetings where weather is a factor. Preparatory actions to be taken during these CORs are set in 15 AW OPLAN 32-4001, Tropical Cyclone Protection/Evacuation of Aircraft, and 15 AW OPLAN 32-1, Disaster Preparedness Operations Plan. The CORs are as follows:

4.13.2.1. COR 4. Destructive winds of 50 knots or greater are possible within 72 hours.

4.13.2.2. COR 3. Destructive winds of 50 knots or greater are possible within 48 hours.

4.13.2.3. COR 2. Destructive winds of 50 knots or greater are anticipated within 24 hours.

4.13.2.4. COR 1. Destructive winds of 50 knots or greater or anticipated within 12 hours.

4.13.2.5. COR 0. A Hickam AFB-unique condition of readiness used while destructive winds of 50 knots or greater are occurring until the all clear is given. COR 0 drives the wing into a posture where only mission essential personnel are on duty and or standing by for recovery operations.

4.13.3. 15 AW Units and Tenant Units will follow internal unit checklists when the 15 AW/CC implements a TCOR condition for Hickam or Johnston AFB in accordance with 15 AW OPLAN 32-4001 and 32-1.

## Chapter 5

### DISSEMINATION OF WEATHER INFORMATION

**5.1. General.** 17 OWS will assist supported agencies in maintaining an efficient, effective means of disseminating weather support information. Weather dissemination procedures must ensure that customers receive the required information in a timely manner. Procedures developed must ensure weather personnel do not spend more time communicating than monitoring weather conditions. All units receiving weather support must be involved in a continuous program of evaluation and improvement of the weather dissemination system, including inter-unit dissemination. The 15 AW is unique as it has many tenant units. Due to this fact, the 17 OWS relies heavily on the 15 AW/CP and the underlying agencies for the transmission of weather watches, warnings and advisories. The 17 OWS dissemination chain is [Attachment 3](#).

#### **5.2. Weather Warnings, Watches, and Advisories Dissemination.**

The timely dissemination of weather warnings, watches, and advisories (W/W/As) is critical to the ability of units to prepare/respond to the threat of dangerous/mission limiting weather. Warnings, watches, and advisories are transmitted to customers via using the filtering method (See [Attachment 3](#)). The combined use of NTFS, Fax, Telephone, Emergency Notification System (ENS), and the OWS website ensures system redundancy to keep 15 AW customers up to date of the current weather situation. W/W/A's are initially disseminated through the NTFS, then a phone call is sent to the initial layer in the dissemination chain in [Attachment 3](#) according to which region (Hickam, Johnston, or Oahu) the WWA is for. After these calls are accomplished by the 17 OWS, the filtering method takes over and the agencies are responsible for pushing the information through to the end of the chain. All watches, warnings, and advisories can be seen at any time on the 17 OWS Website (See [Attachment 8](#)).

**5.3. Back-Up Dissemination Procedures.** Due to the current setup of system redundancy, the 17 OWS is prepared for the loss of NTFS capability, Internet connectivity and fax. The 17 OWS backs up all of these functions with a courtesy call to top line agencies on the dissemination chart. If for any reason the ENS becomes inoperable, the 15 AW/CP will manually call all agencies on the TACNET according to [Attachment 3](#).

## Chapter 6

### SPECIAL MISSION REQUIREMENTS

**6.1. General.** The previous chapters covered support requirements for the majority of the operations on Hickam AFB. Information on units requiring unique support is outlined in this chapter. Any special support requirements not covered here should be coordinated with 17 OWS. All units listed below are notified of each Watch/Warning/Advisory either directly from the 17 OWS, 15AW/CP, or secondary channels in accordance with paragraph [5.2](#).

**6.2. 15 AW Command Post (15 AW/CP).** 17 OWS will:

- 6.2.1. Provide forecasts, as required, for all terminals of interest to 15 AW/CP.
- 6.2.2. Assist in developing procedures to disseminate weather warnings, watches, and advisories.
- 6.2.3. Immediately notify 15 AW/CP of all severe PIREPs in the local area or along major routes.
- 6.2.4. Immediately notify 15 AW/CP of all W/W/A according to [Attachment 3](#). (Dissemination chain)

**6.3. 735th Air Mobility Squadron (735 AMS).** 17 OWS will:

- 6.3.1. Assist in developing procedures to disseminate weather warnings, watches, and advisories.
- 6.3.2. Provide copies of 17 OWS Aircrew Weather Instructions for AMC Transient Aircrews flyers.
- 6.3.3. Provide 175-1 weather briefings via the 17 OWS website for all aircrews with flights originating from 17 OWS AOR (see [Attachment 2](#)).

**6.4. 15th Communications Squadron Maintenance Control (15 CS).** 17 OWS will:

- 6.4.1. Notify 15 CS Maintenance Control of outages at DSN 449-4878, which involve 17 OWS's assigned equipment maintained by 15 CS (see 7.4 for specifics). The following information will be provided: date and time equipment is logged out, description of equipment problem, type of outage (i.e., significant, minimal), date and time equipment is satisfactorily restored.
- 6.4.2. Notify Hickam Tech Control for circuit outages involving 17 OWS circuits.

**6.5. 15th Operations Support Squadron, Base Operations (15 OSS/OSA).** 17 OWS will:

- 6.5.1. Provide initial/refresher weather orientation and or Cooperative Weather Watch (CWW) program training for flight services and Hickam Advisory Tower personnel, as required.
- 6.5.2. Immediately notify 15 OSS/OSA of any changes to PMSV frequency or status so that it may be updated in the FLIP or a NOTAM can be disseminated to the flying community.

**6.6. Disaster Preparedness (15 CES/CEX).** 17 OWS will:

- 6.6.1. In conjunction with the 15 CES/CEX, advise the 15 AW Commander regarding establishment of the appropriate tropical cyclone COR for Hickam AFB, Bellows Air Force Station (AFS), and Johnston Island. Tropical cyclone COR's for Hickam AFB, Bellows AFS and Johnston AFS are set by 15 AW/CC.

6.6.2. Coordinate with 15 CES/CEX and 15 AW/PA on disseminating tropical cyclone information to the base populace via cable TV or other means.

6.6.3. Provide weather support for natural disasters and wartime operations, specifically providing Chemical Downwind Message (CDM) data and Effective Downwind Message (EDM) in accordance with ATP 45B, upon request.

6.6.4. Provide initial weather parameters to calculate the toxic corridor. The forecaster will fill out the "Weather Data for Input into AFTOX" (See [Attachment 5](#)) worksheet when notified the Disaster Control Group (DCG) is forming. When required, the forecaster will read pertinent data over the telephone to an on-site DCG member.

6.6.5. Serve as a backup to the weather sensing equipment onboard the 15 AW Mobile Command Post. In the event of equipment failure, provide the DCG with the most recent data from the Honolulu International Airport observation.

6.6.6. In the event of system failure provide a worst-case toxic corridor calculation using the "Worst Case Toxic Corridor Worksheet." (See [Attachment 5](#))

**6.7. 15 AW Staff Judge Advocate (15 AW/JA).** 17 OWS will provide weather inputs for weather damage claims, upon request.

**6.8. 154 WG (HIANG). Includes 199FS, 203ARS, 204AS, 169ACWS, 201 CCG.** 17 OWS will:

6.8.1. Provide training, in person or through training packages, to HIANG air traffic control personnel on taking limited weather observations, as required.

6.8.2. Provide Aircrew and Battle Staff weather briefings during HIANG exercises, as requested.

6.8.3. Provide flight weather briefings as required for all flights departing Hickam AFB and within the 17 OWS AOR. Briefings will be requested through the internet for a 175-1 brief or a verbal brief may be requested over the telephone. Weather briefer can be reached at 449-8333.

6.8.4. Provide Distinguished Visitor (DV) packages to include horizontal weather depiction and plain language data for departure, enroute, and arrival weather.

6.8.5. Perform a route and flight metwatch for all flights departing Hickam for which a flight weather briefing was given by Hickam forecasters. In the event weather conditions which affect flight safety change significantly from those briefed at departure, the 17 OWS will make every attempt to contact the aircraft in flight by PMSV or through the 15 AW Command Post and 154WG/CPO.

6.8.6. Issue an area forecast twice daily covering the Hawaiian ADIZ (the HADD) which can be viewed on the 17 OWS website (<https://17ows.hickam.af.mil>) updated at 0600L and 1800L.

6.8.7. Provide CDM support as required.

6.8.8. Provide instructors for the weather portion of the Instrument Refresher Course (IRC) and Safety Briefings upon request.

**6.9. 65th Airlift Squadron (65 AS).** 17 OWS will:

6.9.1. Provide flight weather briefings for all flights departing Hickam AFB and within the 17 OWS AOR (See [Attachment 2](#)). A verbal brief will be given for all local flights.

6.9.2. Provide DV packages to include horizontal weather depiction, METSAT image and plain language data for departure, enroute, and arrival weather. DV packages will be e-mailed or faxed to the 65 AS Mission Commander according to personal preference.

6.9.3. Perform a route and flight metwatch for all flights departing Hickam and for flights briefed by 17 OWS. In the event weather conditions which affect flight safety change significantly from those briefed at departure, the 17 OWS will make every attempt to contact the aircraft in flight through the 15 AW Command Post.

6.9.4. Provide instructors for the weather portion of the Instrument Refresher Course (IRC)/safety briefings upon request.

6.9.5. For missions to non-US installations, 65 AS Mission Commanders will coordinate with 17 OWS to have weather packages faxed to the crew hotel at a pre-arranged time. If the Mission Commander is confident in Internet capability at the hotel, he/she may opt to rely on this method of weather package transmission.

**6.10. Air Force Weather Agency/Palehua Solar Observatory (Det 5, 55 SWXS).**

17 OWS will provide Det 5, 55 SWXS personnel an area to work should they evacuate their location to include 24-hour access to a secure phone system.

**6.11. National Airborne Operations Center (NAOC).** The 17 OWS will provide support to the NAOC aircraft in accordance with 15 AW OPLAN 410.

**6.12. Open Skies.** 17 OWS will provide support to the Open Skies Inspection Agency (OSIA) according to 15 AW Open Skies Compliance Plan, Annex 4, during OSIA visits to Hickam AFB.

**6.13. Space Shuttle.** The 17 OWS will provide support to the Space Shuttle program in accordance with 15 AW OPLAN 409.

**6.14. Det 4, 22d Space Operations Squadron, Kaena Point Satellite Tracking Station.** The 17 OWS will provide all watches and warning for Oahu to Det 4. The mission at Det 4 has an operational capability of up to 125 knots, therefore the weather watches and warnings that the 17 OWS issue do not impact their mission. Leadership of Det 4 will still be included in the dissemination process for situational awareness reasons.

## Chapter 7

### RECIPROCAL SUPPORT

**7.1. General.** The 17 OWS requires reciprocal support from various base agencies, particularly where the required support is beyond 17 OWS capabilities. The support requirements outlined herein are essential to 17 OWS providing timely, accurate weather support to Hickam AFB.

**7.2. 15 AW/CP.** 15 AW/CP will:

- 7.2.1. Disseminate weather watches, warnings, and advisories via the ENS IAW 15 AWI 10-203.
- 7.2.2. Notify aircraft of any significant weather phenomena relayed from the 17 OWS. These would include forecast or observed weather advisories, watches, and warnings. Also relay Significant Meteorological Events (SIGMETS) issued by the NWS.
- 7.2.3. Relay amended forecasts to aircraft when requested by the 17 OWS.
- 7.2.4. Ensure the 17 OWS is promptly notified of all alerts, exercises, and Force Protection Condition (FPCON) changes, and any other urgent situations under 15 AWI 10-203 and/or aircraft evacuations under 15 AW OPLAN 32-4001.
- 7.2.5. Encourage aircrews to provide PIREPS and AIREPS.
- 7.2.6. Relay all damage reports (OPREP-3) to the 17 OWS during and after a severe weather event.
- 7.2.7. As a backup to Hickam Advisory Tower provide a daily PMSV check with the 17 OWS (346.6 MHz). The 17 OWS will initiate the radio check via telephone.

**7.3. 735 AMS.** 735 AMS will:

- 7.3.1. Request FWB via the 17 OWS web site for all non-local AMC missions departing Hickam AFB. Notify the 17 OWS of changes to departures as soon as possible.
- 7.3.2. Provide copies of CFP's to the 17 OWS.
- 7.3.3. Encourage aircrews to provide PIREPS and AIREPS.
- 7.3.4. Give all aircrews a copy of the 17 OWS weather instructions flyer.

**7.4. 15 CS.** 15 CS will:

- 7.4.1. Maintain and arrange for maintenance of all assigned meteorological equipment, not including systems designated as operator maintained, FAA maintained, or National Weather Service maintained.
- 7.4.2. Notify the 17 OWS as soon as an equipment outage has terminated. Include the Date Time Group (DTG) the equipment was logged in (i.e., the job was closed).
- 7.4.3. Operate and maintain the Defense Meteorological Satellite Program (DMSP) located on Hickam AFB.
- 7.4.4. Maintain a priority listing for restoration of weather equipment. This list will be coordinated between 17 OWS and 15 CS. The 17 OWS may alter this precedence with coordination from 15 CS if the meteorological situation warrants.

7.4.5. Log out malfunctioning equipment during MARK IVB Meteorological Data Station outages (METSAT viewing hardware).

7.4.6. Notify the 17 OWS if a MARK IVB outage of any kind has occurred or is scheduled to occur. Whenever possible, the 15 CS will provide a minimum 24-hour advance notice of planned outages.

7.4.7. Provide access to weather equipment technical orders.

7.4.8. Coordinate all scheduled maintenance on equipment. If weather conditions dictate caution, weather equipment will not be taken down for scheduled maintenance.

7.4.9. Notify the 17 OWS when any outages to the NIPRNET or other systems potentially affecting 17 OWS operations are planned, and of any unplanned outages that occur.

7.4.10. Notify the 17 OWS of any changes to equipment sensitivities and coordinate changes to support documents when necessary.

7.4.11. Maintain Un-interruptable Power Supply (UPS) supplying back-up power to DMSP critical equipment in the event of power loss.

**7.5. 15 OSS/OSA.** 15 OSS/OSA will:

7.5.1. Upon request, provide a radio check of PMSV frequency (346.6 MHz) through the Hickam Advisory Tower Tower.

7.5.2. Update Flight Information Publications (FLIP's) upon request.

7.5.3. Upon receipt or determination, pass initial runway surface condition (RSC) and runway change information and any changes to the 17 OWS. The 15 OSS/OSA is responsible for keeping the 17 OWS advised of active runway.

7.5.4. Perform CWW through the Hickam Advisory Tower and relay any information to the 17 OWS ASAP. See Chapter 4.3. specifics.

7.5.5. Notify the 17 OWS via Secondary Crash Net of any aircraft emergencies or accidents.

7.5.6. Maintain the ability for aircrews to access the 17 OWS website and print out flight weather briefings. Provide area in flight planning room for the 17 OWS to place weather feedback forms and encourage pilots upon brief and debrief to contact the 17 OWS with PIREPS and feedback.

7.5.7. Notify the 17 OWS of departure changes as soon as possible. The update should include changes to departure times, routes, altitudes, destinations, missions, and/or aircraft tail numbers.

**7.6. 15 CES/CEX.** 15CES/CEX will:

7.6.1. Provide on-scene weather data using output from Weather Pak for Toxic Corridor calculations.

7.6.2. Notify 17 OWS immediately upon Weather Pak equipment failure.

**7.7. Bioenvironmental Engineering Flight (15 ADS/SGGB).** 15 ADS/SGGB will:

7.7.1. Obtain initial response weather data for AFTOX from 17 OWS by calling 449-8332 and asking the forecaster for the temperature (Fahrenheit), wind direction, wind speed (knots), cloud cover (in eights) below 12,000 feet, and if there is an temperature inversion present below 2,000 feet.

7.7.2. Assume primary responsibility for calculating and plotting toxic corridors for the on-scene commander and CSS.

**7.8. 65AS.** The 65 AS will:

7.8.1. Request flight weather briefings via the 17 OWS web site or telephone. If a DV package is required, enter the request in the remarks section of the weather request form.

7.8.2. Submit AIREPS /PIREPS during flights on UHF 346.6 or airways, or during a weather debrief after the flight.

7.8.3. Provide 17 OWS the 65 AS 90-day Flying Schedule when updated.

7.8.4. Provide the 17 OWS the weekly 65 AS sortie slide for the 15 AW weekly staff meeting when updated.

7.8.5. Provide the 17 OWS with any changes to mission impacts or required weather support.

**7.9. 154 WG (HIANG).** The HIANG will:

7.9.1. Request flight weather briefings via the 17 OWS website for ALL missions. Products available on the 17 OWS website are for planning purposes only are not a valid flying brief. If a DV package is required enter the request in the remarks section of the weather request form.

7.9.2. Submit AIREPS/PIREPS during the flight or weather debrief after the flight.

7.9.3. Notify 17 OWS prior to upcoming exercises requiring weather support. The notification will include: meteorological data needed as well as the dates, times, and location of all required weather briefings.

7.9.4. Request CDM support as required.

**7.10. Air Force Weather Agency, Palehua Solar Observatory.** AFWA will:

7.10.1. Call the 17 OWS only for those messages Det 5 deems necessary for real-time transmission.

7.10.2. Provide 17 OWS with verification information on all weather warnings and advisories issued for Oahu.

**7.11. Det 4, 22d Space Operations Squadron, Kaena Point Satellite Tracking Station.** Det 4, 22 SOPS will:

7.11.1. Notify the 17 OWS when the wind speeds reach 35kts and 45kts on the inner-most sensor.

7.11.2. Provide outer wind sensor readings to 17 OWS for informational purposes when requested.

7.11.3. Due to minimal sensitivities of surveillance equipment, Det 4 does not have any mission impacts due to severe weather but still requests notification of Oahu Weather Watches, Warnings, and Advisories for personnel safety and situational awareness.

RAYMOND G. TORRES, Colonel, USAF  
Commander, 15th Airlift Wing

**Attachment 1****GLOSSARY OF REFERENCES, AND SUPPORTING INFORMATION*****References***

FCM-P12, National Hurricane Operations Plan

DoD Flight Information Publications (FLIP's)

AFI 11-206, General Flight Rules

PACAFI 15-101, Weather Support for Pacific Air Forces (PACAF)

PACAFI 15-102, Tropical Cyclone Reconnaissance

15 AWI 10-203, Commander's Staff and Telephone Alert Conference Network (TACNET) Operations Procedures

15 AW Operations Plan (OPLAN) 32-4001, Tropical Cyclone Protection/Evacuation of Aircraft

15 AW OPLAN 32-1, Disaster Preparedness Operations Plan

AFMAN 15-129, Aerospace Weather Operations

AFMAN 15-135, Combat Weather Team Operations

***Abbreviations and Acronyms***

**ADIZ**—Air Defense Identification Zone

**AIREP**—Air Report

**ALT**—Actual Lead Time

**ASOS**—Automated Surface Observing System

**CDM**—Chemical Downwind Message

**COR**—Condition Of Readiness

**CPHC**—Central Pacific Hurricane Center

**CSS**—Commander's Support Staff

**CWT**—Combat Weather Team

**CWW**—Cooperative Weather Watch

**DCG**—Disaster Control Group

**DLT**—Desired Lead Time

**DMSP**—Defense Meteorological Satellite Program

**FACS**—Internal Facsimile System

**FAR**—False Alarm Rate

**FLIP**—Flight Information Publication

**FPCON**—Force Protection Condition

**FS**—Fighter Squadron  
**FWA**—Forecast Weather Advisory  
**FWB**—Flight Weather Briefing  
**HADD**—Hawaiian Air Defense Division  
**HIANG**—Hawaii Air National Guard  
**IAP**—International Airport  
**ICAO**—International Civil Aviation Organization  
**IRC**—Instrument Refresher Course  
**JTWC**—Joint Typhoon Warning Center  
**MEF**—Mission Execution Forecast  
**METAR**—Meteorological Aviation Routine  
**METSAT**—Meteorological Satellite  
**METWATCH**—Meteorological Watch  
**MOU**—Memorandum of Understanding  
**NAOC**—National Airborne Operations Center  
**NEXRAD**—Next Generation Radar  
**NOTAM**—Notice to Airmen  
**NTFS**—New Tactical Forecast System  
**NWSFO**—National Weather Service Forecast Office  
**OPLAN**—Operations Plan  
**OSIA**—Open Skies Inspection Agency  
**OSS**—Operations Support Squadron  
**OWA**—Observed Weather Advisory  
**OWS**—Operational Weather Squadron  
**PACAF**—Pacific Air Forces  
**PIREP**—Pilot Report  
**PMSV**—Pilot to Metro Service  
**PTWC**—Pacific Tsunami Warning Center  
**RCR**—Runway Condition reading  
**RVR**—Runway Visual Range  
**SASO**—Stability And Support Operations  
**SG**—Space Group

**SIGMET**—Significant Meteorological Event

**SPECI**—Special

**SPSS**—Space Surveillance Squadron

**SWAP**—Severe Weather Action Plan

**SWAT**—Severe Weather Action Team

**SWO**—Staff Weather Officer

**TACNET**—Telephone Alert Conference Network

**TAF**—Terminal Aerodrome Forecast

**UFN**—Until Further Notice

**VDU**—Video Display Unit

**WDPN**—Warning Discussion Pacific North

**WFO**—Weather Forecast Office

**WSR-88D**—Weather Surveillance Radar-88 Doppler

### *Terms*

**AFTOX**—An Air Force software program designed to calculate toxic corridors based on a number of spill-specific characteristics and weather conditions

**Air Report (AIREP)**—A pilot report made over areas where weather information is limited or nonexistent.

**Desired Lead Time (DLT)**—The amount of advance notice a supported agency needs to react to an advisory or warning.

**Longline**—The process of transmitting weather data over the Automated Weather Network (AWN) for access by worldwide weather users.

**Meteorological Watch (Metwatch)**—The process of monitoring observed and forecast weather conditions and informing supported agencies when certain established weather conditions, which could affect their operations, are occurring or are expected to occur. There are four types of metwatch.

**Area Metwatch**—A metwatch conducted for local flying areas (i.e., Hawaiian Air Defense Identification Zone (ADIZ), exercise flying area, etc.).

**Flight Metwatch**—A metwatch conducted for a specific flight or mission.

**Route Metwatch**—A metwatch conducted for a specific route (e.g., refueling tracks, training routes provided by special request or direction, etc.).

**Terminal Metwatch**—A metwatch conducted within a 5nm radius of the station for airfield runways, taxiways, and ramp areas.

**Toxic Corridor**—An area derived from spill characteristics and environmental conditions deemed to be susceptible to toxic contamination.

**Pilot Report (PIREP)**—A report of in-flight weather made by an aircrew member.

**Tropical Cyclone Condition of Readiness (COR)**—A formal state or readiness declared by an installation commander, which keys time-phased protective actions to minimize damage and injuries.

**Weather Advisory**—A special notice provided to a supported agency when an established weather condition that could affect its operation is occurring or is expected to occur.

**Weather Pak**—A deployable set of instrumentation capable of calculating on-scene temperature, wind direction, and wind speed.

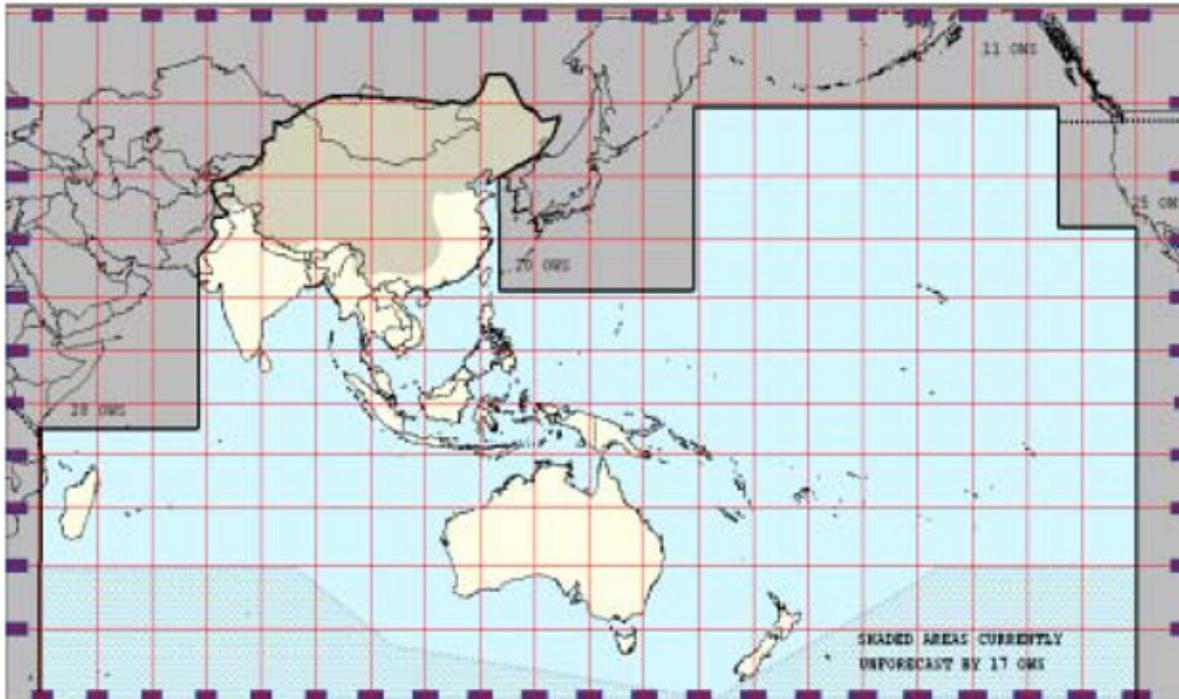
**Weather Warning**—A special forecast provided to a supported agency when an established weather condition of such intensity as to pose a hazard to property or life is occurring or is expected to occur and for which the supported agency must take protective action.

**Weather Watch**—A special notice of forecast weather phenomena that alerts supported agencies of the potential for mission impacting weather conditions. Weather watches are issued when the potential for severe weather is great enough to warrant concern but not great enough to warrant a weather warning. Watches have longer valid times than warnings and allow alerted customers to “lean forward” in anticipation of a warning being issued.

## Attachment 2

## 17 OWS AREA OF RESPONSIBILITY

Figure A2.1. 17 OWS Area of Responsibility



**NOTE:** Unshaded Map Portion Dictates 17 OWS AOR.

Attachment 3

WEATHER NOTIFICATION/DISSEMINATION CHARTS

Figure A3.1. WEATHER NOTIFICATION/DISSEMINATION CHARTS -HICKAM

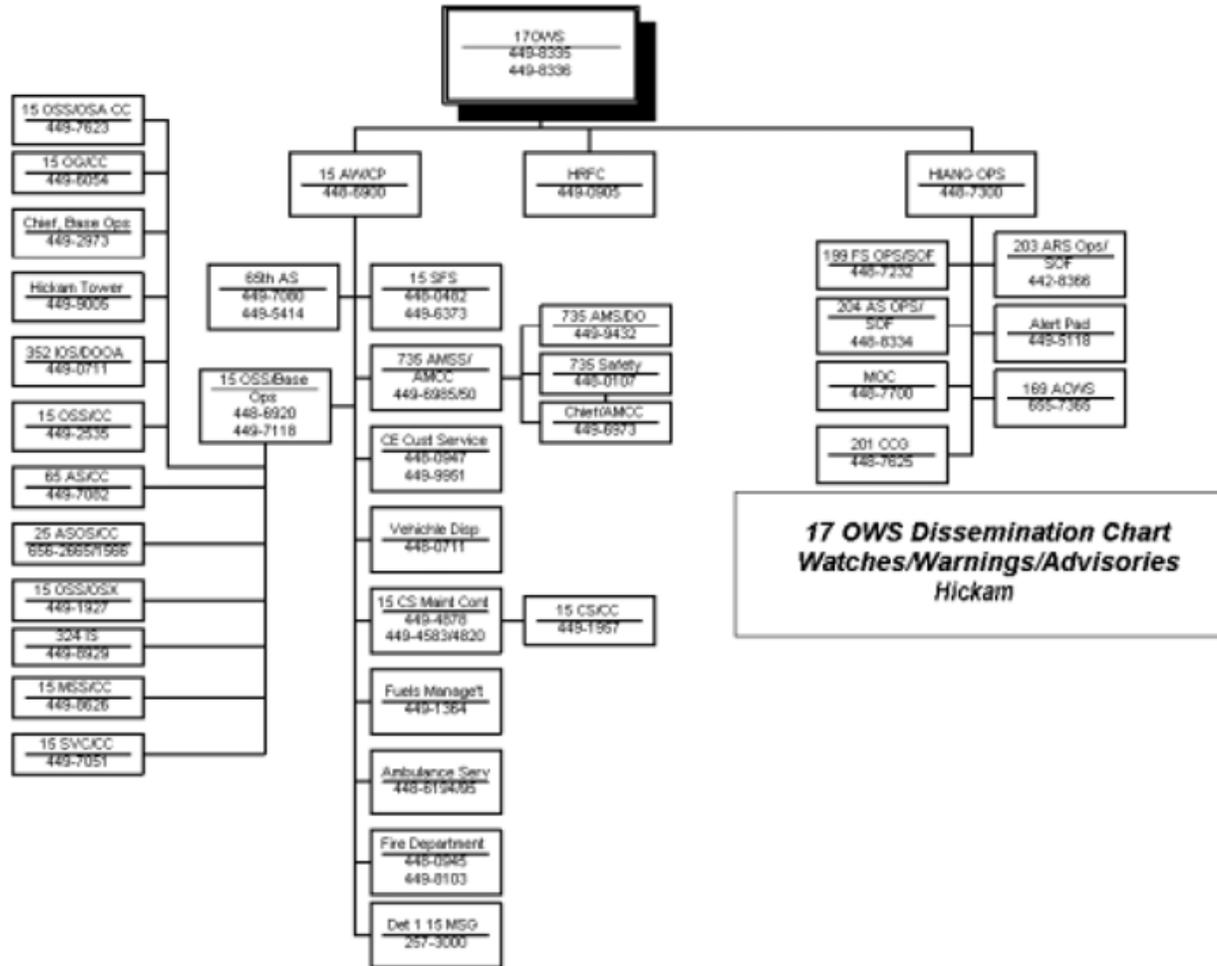


Figure A3.2. 17 OWS DISSEMINATION CHART - OAHU

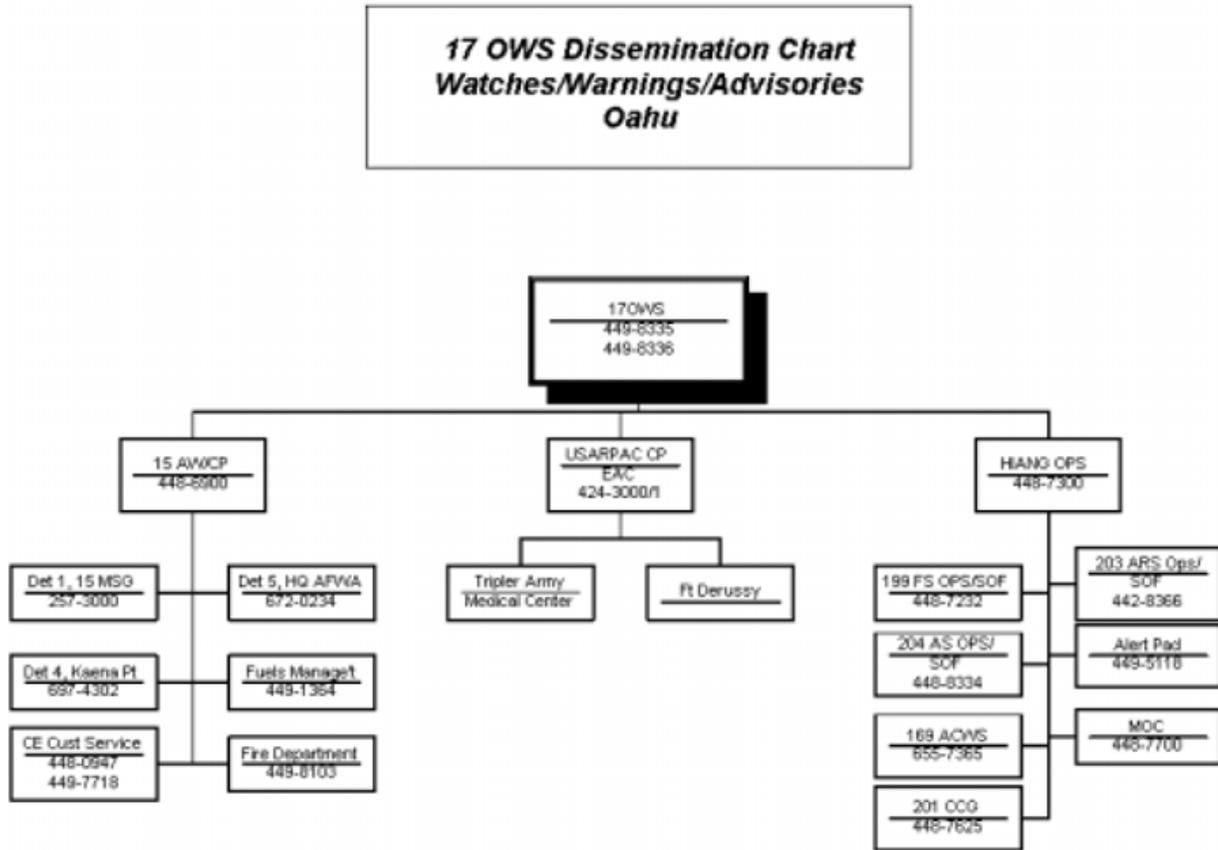
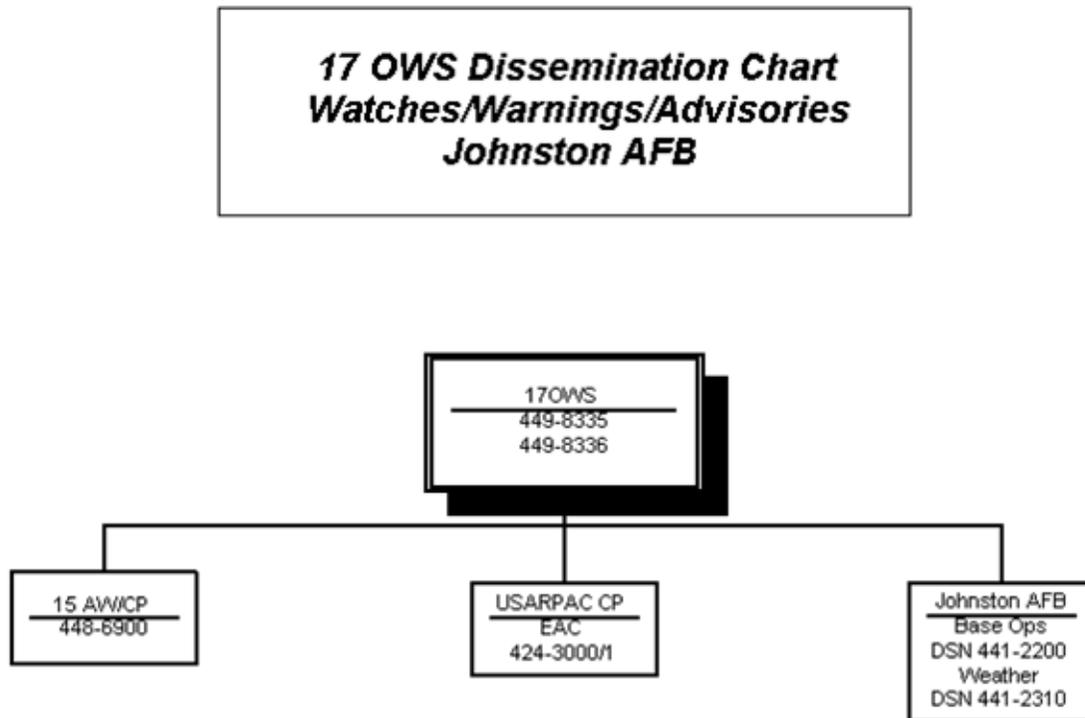


Figure A3.3. 17 OWS DISSEMINATION CHART - JOHNSTON AFB



Attachment 4

HAWAIIAN AIR DEFENSE DIVISION FORECAST (HADD) EXAMPLE

Figure A4.1. Hawaiian Air Defense Division Forecast (HADD) Example

<b>HAWAIIAN AREA DEFENSE DIVISION FORECAST</b>							
<b>ADIZ FORECAST</b>			<b>VALID:</b>		<b>25 SEP 17Z TO 26 SEP 05Z 2003</b>		
<small>THE HADD FORECAST IS NOT AMENDED AND IS FOR PLANNING PURPOSES ONLY. IT IS NOT TO BE USED IN PLACE OF A FLIGHT WEATHER BRIEFING. PLEASE CALL 17OWS AT 449-8333 FOR A FLIGHT WEATHER BRIEFING.</small>							
<small>ALTITUDE IN HUNDREDS OF FEET MEAN SEA LEVEL (MSL), UNLESS OTHERWISE SPECIFIED.</small>							
<small>WIND DATA DDVVV WHERE: DD IS WIND DIRECTION IN TENS OF DEGREES AND VVV IS SPEED IN KNOTS. TEMPERATURE IS IN DEGREES CELSIUS.</small>							
	<b>24N 159W</b>		<b>21N 159W</b>		<b>18N 159W</b>		
<b>FLIGHT LEVEL</b>	<b>WIND</b>	<b>TEMP</b>	<b>WIND</b>	<b>TEMP</b>	<b>WIND</b>	<b>TEMP</b>	<b>TEMP DEV</b>
<b>050</b>	21020	17	25020	17	11010	17	12
<b>100</b>	22025	9	21015	10	05010	11	15
<b>150</b>	23030	1	21020	3	16010	3	18
<b>200</b>	24035	-7	23025	-6	18005	-5	18
<b>250</b>	25040	-18	24030	-17	18010	-17	18
<b>300</b>	25040	-29	23035	-28	19015	-27	16
<b>350</b>	26050	-40	23060	-39	23015	-38	15
<b>400</b>	26045	-51	26055	-51	22025	-51	-7
<b>450</b>	27040	-62	25035	-63	23020	-64	-19
<b>500</b>	26030	-70	25025	-71	22015	-72	-15
<b>CONTRAILS</b>	41/68		42/68		42/68		
<b>TROP HEIGHT</b>	520		ABV 530		ABV 530		
<b>MAX WIND/LEVEL</b>	26050	350	23060	350	22025	400	
<b>SUPERSONIC CONDITIONS</b>				<b>SEA STATE</b>		<b>CLOUDS</b>	
<b>VT: 25/12Z</b>				<a href="#">ADIZ Satellite Image</a>		<b>COVERAGE</b>	<b>LEVELS</b>
<b>NORTH</b>	GOOD	<b>SOUTH</b>	BAD	<a href="#">Hickam Take-off Data</a>		FEW CB	020-350
<b>Fighter Index for Thermal Stress</b>						SCT-BKN	020-100
N/A						FEW	100-150
						FEW	250-300
						<b>VISIBILITY at FL250</b>	
						OUT OF CLOUD	7SM
						IN-CLOUD	3SM
<b>ADIZ HAZARDS/REMARKS</b>							
UPDATED SUPERSONIC CONDITIONS							
OBSERVED LIGHTNING/TS IN ADIZ OUT UFN							

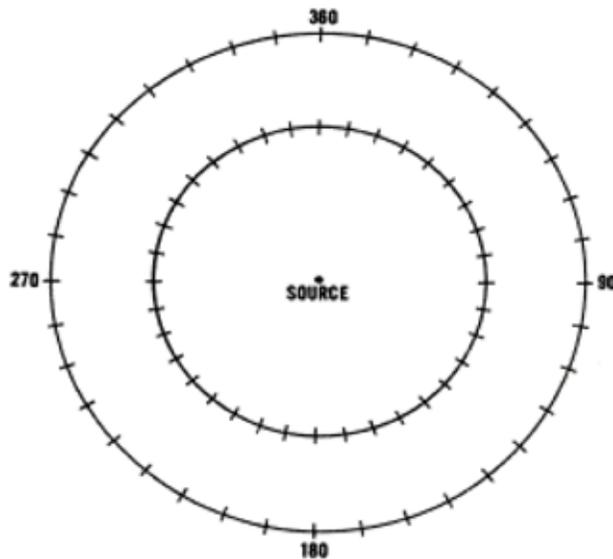
Attachment 5

TOXIC CORRIDOR WORKSHEET

Figure A5.1. Toxic Corridor Worksheet

**WORST CASE TOXIC CORRIDOR WORKSHEET**

<b>10-Minute Mean Wind</b>		
<div style="border: 1px solid black; padding: 2px; margin-bottom: 5px; text-align: center;"><b>Magnetic Wind Direction (°)</b></div> <div style="border: 1px solid black; height: 60px; width: 100%;"></div>	<div style="border: 1px solid black; padding: 2px; margin-bottom: 5px; text-align: center;"><b>Wind Speed (kt)</b></div> <div style="border: 1px solid black; height: 60px; width: 100%;"></div>	
<b>Plotted Corridor</b>		
<div style="border: 1px solid black; padding: 2px; margin-bottom: 5px; text-align: center;"><b>Centerline (°)</b></div> <div style="border: 1px solid black; height: 60px; width: 100%;"></div> <div style="border: 1px solid black; padding: 2px; margin-top: 5px; font-size: small;">                     Add 180° to wind direction.                      If greater than 360°, subtract                      360° from the sum.                 </div>	<div style="border: 1px solid black; padding: 2px; margin-bottom: 5px; text-align: center;"><b>Length (ft)</b></div> <div style="border: 1px solid black; height: 60px; width: 100%;"></div> <div style="border: 1px solid black; padding: 2px; margin-top: 5px; font-size: small;"> <math display="block">L = 6076 \times \text{wind speed (kt)}</math> </div>	<div style="border: 1px solid black; padding: 2px; margin-bottom: 5px; text-align: center;"><b>Width (circle one)</b></div> <div style="border: 1px solid black; padding: 2px; margin-bottom: 5px; font-size: small;"> <b>Wind Speed</b> </div> <div style="font-size: small;"> <p>≤ 3 kt:        circle</p> <p>4-10 kt:    45° each side</p> <p>≥ 11 kt:    22.5° each side</p> </div>



Plotting Instructions

1. *Centerline*: Draw a line from the source along the radial toward which the wind is blowing.
2. *Corridor*:
  - If wind speed is ≤ 3 knots, draw a circle around the source.
  - If wind speed ≥ 4 knots, draw the corridor along centerline. Each hash mark is equivalent to 10°.
3. Make 2 copies of this completed worksheet.

Hickam Forecaster:	4B-6262
	4B-8332
Secure Fax:	4B-8336
Lead Forecaster:	4B-8335

## Attachment 6

## CUSTOMER SENSITIVITIES

Table A6.1. Customer Response Matrix – Hickam

Customer Response Matrix		
Hickam		
Watch Criteria	Customer	Customer Actions
Tornado/Funnel Cloud/ Water Spout	15 AW/CP	Send message over ENS, notify MOC who calls it over the radio to the internal network, log the message. OPREP-3 reportable, relocate if necessary
	Det 1, 15MSG	Disseminate info via internal radio network, logged in blotter report
	15 SFS	SFCC notifies all posts and patrols. SF maintains post until threat becomes either visible or a report from weather that threat is occurring.
	65 AS	Perform Unit Internal Severe Weather Checklist
	735 AMS/AMCC	Initiate Quick Reaction Checklist (QRC) Notify internal and external agencies according to checklist
	15 OSS/Base Ops	Contact 15 OSS/OSAT, 352 IOS DOAA, 15 OG/CC, 65 AS/CC, 25 ASOS/CC, 15 MSS/CC, 15 SVS/CC, 324 IS, 15 OSS/OSX
	15 CS/Comm Maint	Notify Squadron CC, all Flight CCs, Maintenance W/Cs and the NCC help desk. Cease appropriate operations if Warning is issued.
	15 LRD/LGRFI Fuels	Notifies all fuels personnel/section and records all pertinent information, prepare to cease fueling operations.
	HRFC	Secure Aircraft in hanger and notify maintenance contractor
	15 CES/ Cust Service	Notify all shop personnel to secure assets from possible damage
	Ambulance Services	Watch logged in daily report

Watch Criteria		
	<b>Customer</b>	<b>Customer Actions</b>
	HIANG	Notify aircraft flying in the local area via UHF. Notify all flying squadron OPS and SOF, also notify Alert Pad. Notify 169 ACWS and 201 CCG who will push to outside agencies. Modify mission profiles, Restrict flight line operations, cancel some flight operations.
	Fire Department	Information is disseminated internally to all crews and leadership via radio/dispatch. Increase Safety Awareness for/by crews.
<b>Lightning/Thunderstorm w/in 5 nm</b>	15 AW/CP	Send message over ENS, notify MOC who calls it over the radio to the internal network, log the message.
	Det 1, 15MSG	Disseminate info via internal radio network, logged in blotter report
	15 SFS	SFCC notifies all posts and patrols. SF maintains post until threat becomes either visible or a report from weather that threat is occurring.
	65 AS	No action necessary
	735 AMS/AMCC	Initiate Quick Reaction Checklist (QRC) Notify internal and external agencies according to checklist
	15 OSS/Base Ops	Contact 15 OSS/OSAT, 352 IOS DOAA, 15 OG/CC, 65 AS/CC, 25 ASOS/CC, 15 MSS/CC, 15 SVS/CC, 324 IS, 15 OSS/OSX
	15 CS/Comm Maint	Notify Squadron CC, all Flight CCs, Maintenance W/Cs and the NCC help desk. Cease appropriate operations if Warning is issued.
	15 LRD/LGRFI Fuels	Notifies all fuels personnel/section and records all pertinent information
	HRFC	Secure Aircraft in hanger and notify maintenance contractor
	15 CES/Cust Service	Notify all shops to be aware of inclimate weather
	Ambulance Services	Watch logged in daily report
HIANG	Notify aircraft flying in the local area via UHF. Notify all flying squadron OPS and SOF, also notify Alert Pad. Notify 169 ACWS and 201 CCG who will push to outside agencies. Modify mission profiles, Restrict flight line operations, cancel some flight operations.	

Watch Criteria		
	<b>Customer</b>	<b>Customer Actions</b>
	Fire Department	Information is disseminated internally to all crews and leadership via radio/dispatch. Increase Safety Awareness for/by crews.
<b>Heavy Rain, 2" or greater in 4 hrs</b>	15 AW/CP	Send message over ENS, notify MOC who calls it over the radio to the internal network, log the message.
	Det 1, 15MSG	Disseminate info via internal radio network, logged in blotter report
	15 SFS	SFCC notifies all posts and patrols.
	65 AS	No action necessary
	735 AMS/AMCC	Initiate Quick Reaction Checklist (QRC) Notify internal and external agencies according to checklist
	15 OSS/Base Ops	Contact 15 OSS/OSAT, 352 IOS DOAA, 15 OG/CC, 65 AS/CC, 25 ASOS/CC, 15 MSS/CC, 15 SVS/CC, 324 IS, 15 OSS/OSX
	15 CS/Comm Maint	Notify Squadron CC, all Flight CCs, Maintenance W/Cs and the NCC help desk. Cease appropriate operations if Warning is issued.
	15 LRD/LGRFI Fuels	Notifies all fuels personnel/section and records all pertinent information
	HRFC	Secure Aircraft in hanger and notify maintenance contractor
	15 CES/Cust Service	Notify utility shop to ensure storm drain pumps working
	Ambulance Services	Watch logged in daily report
	HIANG	Notify aircraft flying in the local area via UHF. Notify all flying squadron OPS and SOF, also notify Alert Pad. Notify 169 ACWS and 201 CCG who will push to outside agencies. Modify mission profiles, Restrict flight line operations, cancel some flight operations.
Fire Department	Information is disseminated internally to all crews and leadership via radio/dispatch. Increase Safety Awareness for/by crews.	
<b>Hail, 1/2" or greater</b>	15 AW/CP	Send message over ENS, notify MOC who calls it over the radio to the internal network, log the message.
	Det 1, 15MSG	Disseminate info via internal radio network, logged in blotter report

Watch Criteria		
	<b>Customer</b>	<b>Customer Actions</b>
	15 SFS	SFCC notifies all posts and patrols. SF maintains post until threat becomes either visible or a report from weather that threat is occurring.
	65 AS	No action necessary
	735 AMS/AMCC	Initiate Quick Reaction Checklist (QRC) Notify internal and external agencies according to checklist
	15 OSS/Base Ops	Contact 15 OSS/OSAT, 352 IOS DOAA, 15 OG/CC, 65 AS/CC, 25 ASOS/CC, 15 MSS/CC, 15 SVS/CC, 324 IS, 15 OSS/OSX
	15 CS/Comm Maint	Notify Squadron CC, all Flight CCs, Maintenance W/Cs and the NCC help desk. Cease appropriate operations if Warning is issued.
	15 LRD/LGRFI Fuels	Notifies all fuels personnel/section and records all pertinent information
	HRFC	Secure Aircraft in hanger and notify maintenance contractor
	15 CES/Cust Service	Notify shop personnel working outside
	Ambulance Services	Watch logged in daily report
	HIANG	Notify aircraft flying in the local area via UHF. Notify all flying squadron OPS and SOF, also notify Alert Pad. Notify 169 ACWS and 201 CCG who will push to outside agencies. Modify mission profiles, Restrict flight line operations, cancel some flight operations.
Fire Department	Information is disseminated internally to all crews and leadership via radio/dispatch. Increase Safety Awareness for/by crews.	
<b>Winds 45kts or greater</b>	15 AW/CP	Send message over ENS, notify MOC who calls it over the radio to the internal network, log the message.
	Det 1, 15MSG	Disseminate info via internal radio network, logged in blotter report
	15 SFS	SFCC notifies all posts and patrols. SF maintains post until threat becomes either visible or a report from weather that threat is occurring.
	65 AS	No action necessary
	735 AMS/AMCC	Initiate Quick Reaction Checklist (QRC) Notify internal and external agencies according to checklist

Watch Criteria		
	<b>Customer</b>	<b>Customer Actions</b>
	15 OSS/Base Ops	Contact 15 OSS/OSAT, 352 IOS DOAA, 15 OG/CC, 65 AS/CC, 25 ASOS/CC, 15 MSS/CC, 15 SVS/CC, 324 IS, 15 OSS/OSX
	15 CS/Comm Maint	Notify Squadron CC, all Flight CCs, Maintenance W/Cs and the NCC help desk. Cease climbing operations if 35 knots has been reached, stow appropriate antennas.
	15 LRD/LGRFI Fuels	Notifies all fuels personnel/section and records all pertinent information
	HRFC	Secure Aircraft in hanger and notify maintenance contractor
	15 CES/Cust Service	Notify electricians/painters equipment may not work
	Ambulance Services	Watch logged in daily report
	HIANG	Notify aircraft flying in the local area via UHF. Notify all flying squadron OPS and SOF, also notify Alert Pad. Notify 169 ACWS and 201 CCG who will push to outside agencies. Modify mission profiles, Restrict flight line operations, cancel some flight operations.
	Fire Department	Information is disseminated internally to all crews and leadership via radio/dispatch. Increase Safety Awareness for/by crews.
Warning Criteria		
<b>Tornado/Funnel Cloud/Waterspout</b>	15 AW/CP	Send message over ENS, notify MOC who calls it over the radio to the internal network, log the message. OPREP-3 reportable, relocate if necessary
	Det 1, 15MSG	Disseminate info via internal radio network, logged in blotter report. Take cover as necessary.
	15 SFS	SFCC notifies all posts and patrols. SF maintains post until threat becomes either visible or a report from weather that threat is occurring.
	65 AS	Perform Unit Internal Severe Weather Checklist
	735 AMS/AMCC	Initiate Quick Reaction Checklist (QRC) Notify internal and external agencies according to checklist
	15 OSS/Base Ops	Contact 15 OSS/OSAT, 352 IOS DOAA, 15 OG/CC, 65 AS/CC, 25 ASOS/CC, 15 MSS/CC, 15 SVS/CC, 324 IS, 15 OSS/OSX
	15 CS/Comm Maint	Notify Squadron CC, all Flight CCs, Maintenance W/Cs and the NCC help desk. Cease outdoor ops

Watch Criteria		
	<b>Customer</b>	<b>Customer Actions</b>
	15 LRD/LGRFI Fuels	Notifies all fuels personnel/section and records all pertinent information. Cease all fueling operations
	HRFC	Secure Aircraft in hanger and notify maintenance contractor
	15 CES/Cust Service	Notify all shop personnel to secure assets and take cover
	Ambulance Services	Move to safe location within clinic; away from windows. Warning logged in daily report
	HIANG	Notify aircraft flying in the local area via UHF. Notify all flying squadron OPS and SOF, also notify Alert Pad. Notify 169 ACWS and 201 CCG who will push to outside agencies. Cancel flights and all outdoor operations.
	Fire Department	Information is disseminated internally to all crews and leadership via radio/dispatch. Crews only respond to calls if there is threat to life. Reaction determined by CC.
<b>Heavy Rain, 2" or greater in 4 hours</b>	15 AW/CP	Send message over ENS, notify MOC who calls it over the radio to the internal network, log the message.
	Det 1, 15MSG	Disseminate info via internal radio network, logged in blotter report. Make necessary safety precautions.
	15 SFS	SFCC notifies all posts and patrols. Take necessary safety precautions.
	65 AS	No action necessary
	735 AMS/AMCC	Initiate Quick Reaction Checklist (QRC) Notify internal and external agencies according to checklist
	15 OSS/Base Ops	Contact 15 OSS/OSAT, 352 IOS DOAA, 15 OG/CC, 65 AS/CC, 25 ASOS/CC, 15 MSS/CC, 15 SVS/CC, 324 IS, 15 OSS/OSX
	15 CS/Comm Maint	Notify Squadron CC, all Flight CCs, Maintenance W/Cs and the NCC help desk. Cease outdoor ops
	15 LRD/LGRFI Fuels	Notifies all fuels personnel/section and records all pertinent information. Cease all fueling operations
	HRFC	Secure Aircraft in hanger and notify maintenance contractor
	15 CES/Cust Service	Notify personnel so assets can be secured from low lying areas.

Watch Criteria		
	Customer	Customer Actions
	Ambulance Services	Warning logged in daily report
	HIANG	Notify aircraft flying in the local area via UHF. Notify all flying squadron OPS and SOF, also notify Alert Pad. Notify 169 ACWS and 201 CCG who will push to outside agencies. Modify mission profiles, Severely restrict flight line operations, cancel some flight operations.
	Fire Department	Information is disseminated internally to all crews and leadership via radio/dispatch. Increase Safety Awareness for/by crews.
<b>Hail, 1/2" or greater</b>	15 AW/CP	Send message over ENS, notify MOC who calls it over the radio to the internal network, log the message.
	Det 1, 15MSG	Disseminate info via internal radio network, logged in blotter report. Make necessary safety precautions.
	15 SFS	SFCC notifies all posts and patrols. Each post and patrol takes necessary safety precautions.
	65 AS	No action necessary
	735 AMS/AMCC	Initiate Quick Reaction Checklist (QRC) Notify internal and external agencies according to checklist
	15 OSS/Base Ops	Contact 15 OSS/OSAT, 352 IOS DOAA, 15 OG/CC, 65 AS/CC, 25 ASOS/CC, 15 MSS/CC, 15 SVS/CC, 324 IS, 15 OSS/OSX
	15 CS/Comm Maint	Notify Squadron CC, all Flight CCs, Maintenance W/Cs and the NCC help desk. Cease outdoor ops
	15 LRD/LGRFI Fuels	Notifies all fuels personnel/section and records all pertinent information. Cease all fueling operations
	HRFC	Secure Aircraft in hanger and notify maintenance contractor
	15 CES/Cust Service	Notify shop personnel working outside
	Ambulance Services	Warning logged in daily report
	HIANG	Notify aircraft flying in the local area via UHF. Notify all flying squadron OPS and SOF, also notify Alert Pad. Notify 169 ACWS and 201 CCG who will push to outside agencies. Modify mission profiles, Severely restrict flight line operations, cancel some flight operations.

Watch Criteria		
	<b>Customer</b>	<b>Customer Actions</b>
	Fire Department	Information is disseminated internally to all crews and leadership via radio/dispatch. Increase Safety Awareness for/by crews.
<b>Winds 35-44 knots</b>	15 AW/CP	Send message over ENS, notify MOC who calls it over the radio to the internal network, log the message.
	Det 1, 15MSG	Disseminate info via internal radio network, logged in blotter report. Make necessary safety precautions.
	15 SFS	SFCC notifies all posts and patrols. Take necessary safety precautions.
	65 AS	No action necessary
	735 AMS/AMCC	Initiate Quick Reaction Checklist (QRC) Notify internal and external agencies according to checklist
	15 OSS/Base Ops	Contact 15 OSS/OSAT, 352 IOS DOAA, 15 OG/CC, 65 AS/CC, 25 ASOS/CC, 15 MSS/CC, 15 SVS/CC, 324 IS, 15 OSS/OSX
	15 CS/Comm Maint	Notify Squadron CC, all Flight CCs, Maintenance W/Cs and the NCC help desk. Stow appropriate antennas.
	15 LRD/LGRFI Fuels	Notifies all fuels personnel/section and records all pertinent information. Cease all fueling operations
	HRFC	Secure Aircraft in hanger and notify maintenance contractor
	15 CES/Cust Service	Notify Superintendents and shop personnel so that work can be suspended
	Ambulance Services	Warning logged in daily report
	HIANG	Notify aircraft flying in the local area via UHF. Notify all flying squadron OPS and SOF, also notify Alert Pad. Notify 169 ACWS and 201 CCG who will push to outside agencies. Modify mission profiles, restrict flight line operations, cancel some flight operations.
	Fire Department	Information is disseminated internally to all crews and leadership via radio/dispatch. Increase Safety Awareness for/by crews. CC discretion.

Watch Criteria		
	<b>Customer</b>	<b>Customer Actions</b>
<b>Winds 45 knots or greater</b>	15 AW/CP	Send message over ENS, notify MOC who calls it over the radio to the internal network, log the message.
	Det 1, 15MSG	Disseminate info via internal radio network, logged in blotter report. Make necessary safety precautions.
	15 SFS	SFCC notifies all posts and patrols. Each post and patrol takes necessary safety precautions.
	65 AS	Perform Unit Internal Severe Weather Checklist
	735 AMS/AMCC	Initiate Quick Reaction Checklist (QRC) Notify internal and external agencies according to checklist
	15 OSS/Base Ops	Contact 15 OSS/OSAT, 352 IOS DOAA, 15 OG/CC, 65 AS/CC, 25 ASOS/CC, 15 MSS/CC, 15 SVS/CC, 324 IS, 15 OSS/OSX
	15 CS/Comm Maint	Notify Squadron CC, all Flight CCs, Maintenance W/Cs and the NCC help desk. Appropriate antennas stowed, Cease all outdoor operations.
	15 LRD/LGRFI Fuels	Notifies all fuels personnel/section and records all pertinent information. Cease all fueling operations
	HRFC	Secure Aircraft in hanger and notify maintenance contractor
	15 CES/Cust Service	Notify shop personnel to take proper safety precautions, all work outside should be ceased
	Ambulance Services	Warning logged in daily report
	HIANG	Notify aircraft flying in the local area via UHF. Notify all flying squadron OPS and SOF, also notify Alert Pad. Notify 169 ACWS and 201 CCG who will push to outside agencies. Modify mission profiles, restrict flight line operations, cancel some flight operations. Secure Aircraft with chains.
	Fire Department	Information is disseminated internally to all crews and leadership via radio/dispatch. Crews only respond to calls if there is threat to life. CC discretion.

Watch Criteria		
	Customer	Customer Actions
<b>Lightning/Thunderstorm w/in 5 nm</b>	15 AW/CP	Send message over ENS, notify MOC who calls it over the radio to the internal network, log the message. OPREP-3 reportable, relocate if necessary
	Det 1, 15MSG	Disseminate info via internal radio network, logged in blotter report. Take cover and Make necessary safety precautions.
	15 SFS	SFCC notifies all posts and patrols. Each post and patrol takes necessary safety precautions.
	65 AS	No action necessary
	735 AMS/AMCC	Initiate Quick Reaction Checklist (QRC) Notify internal and external agencies according to checklist
	15 OSS/Base Ops	Contact 15 OSS/OSAT, 352 IOS DOAA, 15 OG/CC, 65 AS/CC, 25 ASOS/CC, 15 MSS/CC, 15 SVS/CC, 324 IS, 15 OSS/OSX
	15 CS/Comm Maint	Notify Squadron CC, all Flight CCs, Maintenance W/Cs and the NCC help desk. Cease all outdoor operations.
	15 LRD/LGRFI Fuels	Notifies all fuels personnel/section and records all pertinent information. Cease all fueling operations
	HRFC	Secure Aircraft in hanger and notify maintenance contractor
	15 CES/Cust Service	Notify all shops to cease outdoor activities
	Ambulance Services	Warning logged in daily report
	HIANG	Notify aircraft flying in the local area via UHF. Notify all flying squadron OPS and SOF, also notify Alert Pad. Notify 169 ACWS and 201 CCG who will push to outside agencies. Cancel flights and all outdoor operations.
	Fire Department	Information is disseminated internally to all crews and leadership via radio/dispatch. Increase Safety Awareness for/by crews. CC discretion.

Watch Criteria		
	Customer	Customer Actions
Advisory Criteria		
<b>Thunderstorms in the ADIZ</b>	15 AW/CP	Send message over ENS, notify MOC who calls it over the radio to the internal network, log the message.
	Det 1, 15MSG	Logged in blotter report, no subsequent actions necessary
	15 SFS	Logged in blotter report, no subsequent actions necessary
	65 AS	No action necessary
	735 AMS/AMCC	Initiate Quick Reaction Checklist (QRC) Notify internal and external agencies according to checklist
	15 OSS/Base Ops	Contact 15 OSS/OSAT, 352 IOS DOAA 24 hrs/day, 15 OG/CC during duty hours
	15 CS/Comm Maint	Notify SCMGA (Antenna W/C) and SCMR (Solar Observatory)
	15 LRD/LGRFI Fuels	Notifies all fuels personnel/section and records all pertinent information
	HRFC	No action necessary
	15 CES/Cust Service	No action necessary
	Ambulance Services	Advisory logged in daily report
	HIANG	Notify aircraft flying in the local area via UHF. Notify all flying squadron OPS and SOF, also notify Alert Pad. Notify 169 ACWS and 201 CCG who will push to outside agencies. Modify mission profiles.
	Fire Department	No action necessary
<b>Low level wind shear</b>	15 AW/CP	Send message over ENS, notify MOC who calls it over the radio to the internal network, log the message.
	Det 1, 15MSG	No action necessary
	15 SFS	Logged in blotter report, no subsequent actions necessary
	65 AS	No action necessary
	735 AMS/AMCC	Initiate Quick Reaction Checklist (QRC) Notify internal and external agencies according to checklist
	15 OSS/Base Ops	Contact 15 OSS/OSAT, 352 IOS DOAA 24 hrs/day, 15 OG/CC during duty hours
	15 CS/Comm Maint	No action necessary

Watch Criteria		
	<b>Customer</b>	<b>Customer Actions</b>
	15 LRD/LGRFI Fuels	Notifies all fuels personnel/section and records all pertinent information
	HRFC	No action necessary
	15 CES/Cust Service	No action necessary
	Ambulance Services	No action necessary
	HIANG	Notify aircraft flying in the local area via UHF. Notify all flying squadron OPS and SOF, also notify Alert Pad. Notify 169 ACWS and 201 CCG who will push to outside agencies. Modify mission profiles according to aircraft/crew sensitivities.
	Fire Department	No action necessary
<b>Crosswinds, 25 kts or greater, Rnwy 8R/26L</b>	15 AW/CP	Send message over ENS, notify MOC who calls it over the radio to the internal network, log the message.
	Det 1, 15MSG	No action necessary
	15 SFS	Logged in blotter report, no subsequent actions necessary
	65 AS	No action necessary
	735 AMS/AMCC	Initiate Quick Reaction Checklist (QRC) Notify internal and external agencies according to checklist
	15 OSS/Base Ops	Contact 15 OSS/OSAT, 352 IOS DOAA 24 hrs/day, 15 OG/CC during duty hours
	15 CS/Comm Maint	No action necessary
	15 LRD/LGRFI Fuels	Notifies all fuels personnel/section and records all pertinent information
	HRFC	No action necessary
	15 CES/Cust Service	Notify Power Production/Electrical personnel due to Aircraft Arresting
	Ambulance Services	No action necessary
	HIANG	Notify aircraft flying in the local area via UHF. Notify all flying squadron OPS and SOF, also notify Alert Pad. Notify 169 ACWS and 201 CCG who will push to outside agencies. Modify mission profiles according to aircraft/crew sensitivities.
	Fire Department	No action necessary

Watch Criteria		
	Customer	Customer Actions
Surface wind 25 to 34 kts	15 AW/CP	Send message over ENS, notify MOC who calls it over the radio to the internal network, log the message.
	Det 1, 15MSG	Logged in blotter report, no subsequent actions necessary
	15 SFS	Logged in blotter report, no subsequent actions necessary
	65 AS	No action necessary
	735 AMS/AMCC	Initiate Quick Reaction Checklist (QRC) Notify internal and external agencies according to checklist
	15 OSS/Base Ops	Contact 15 OSS/OSAT, 352 IOS DOAA 24 hrs/day, 15 OG/CC during duty hours
	15 CS/Comm Maint	Notify SCMGA (Antenna W/C) and SCMR (Solar Observatory)
	15 LRD/LGRFI Fuels	Notifies all fuels personnel/section and records all pertinent information
	HRFC	No action necessary
	15 CES/Cust Service	Notify shop personnel so that they can plan work accordingly. Any high level operations suspended.
	Ambulance Services	Advisory logged in daily report
	HIANG	Notify aircraft flying in the local area via UHF. Notify all flying squadron OPS and SOF, also notify Alert Pad. Notify 169 ACWS and 201 CCG who will push to outside agencies. Modify mission profiles according to aircraft/crew sensitivities.
	Fire Department	No action necessary
	Ceiling < 600 ft, Vis < 2 miles	15 AW/CP
Det 1, 15MSG		No action necessary
	15 SFS	Logged in blotter report, no subsequent actions necessary
	65 AS	No action necessary
	735 AMS/AMCC	Initiate Quick Reaction Checklist (QRC) Notify internal and external agencies according to checklist
	15 OSS/Base Ops	Contact 15 OSS/OSAT, 352 IOS DOAA 24 hrs/day, 15 OG/CC during duty hours
	15 CS/Comm Maint	No action necessary

Watch Criteria		
	<b>Customer</b>	<b>Customer Actions</b>
	15 LRD/LGRFI Fuels	Notifies all fuels personnel/section and records all pertinent information
	HRFC	No action necessary
	15 CES/Cust Service	Notify Power Production/Electrical personnel due to Aircraft Arresting
	Ambulance Services	No action necessary
	HIANG	Notify aircraft flying in the local area via UHF. Notify all flying squadron OPS and SOF, also notify Alert Pad. Notify 169 ACWS and 201 CCG who will push to outside agencies. Modify mission profiles according to aircraft/crew sensitivities.
	Fire Department	No action necessary

Table A6.2. Customer Response Matrix – Oahu

Customer Response Matrix		
Oahu		
Watch Criteria	Customer	Customer Actions
<b>Tornado/Funnel Cloud/Water Spout</b>	15 AW/CP	Send message over ENS, notify MOC who calls it over the radio to the internal network, and log the message.
	Det 1, 15MSG	Disseminate info via internal radio network, logged in blotter report. Take cover if necessary.
	Det 5, HQ AFWA	Stow Antennas, Cease Operations
	Det 4, Kaena Pt	Take necessary precautions for personnel
	15 LRD/LGRFI Fuels	Notifies all fuels personnel/section and records all pertinent information
	HIANG	Notify aircraft flying in the local area via UHF. Notify all flying squadron OPS and SOF, also notify Alert Pad. Notify 169 ACWS and 201 CCG who will push to outside agencies. Modify mission profiles, cancel some flight operations.
	15 CES/ Cust Service	Notify all personnel for situational awareness
	USARPAC	Watch received through EAC who notifies Tripler Army Medical Center and Ft Derussy. Actions include but are not limited to: no action at all, curtail/modify training, cancels training, and restricts operations. Installation operations center will determine the correct action for each individual situation depending on location and severity of weather.
<b>Lightning/Thunderstorm w/in 5 nm</b>	15 AW/CP	Send message over ENS, notify MOC who calls it over the radio to the internal network, and log the message.
	Det 1, 15MSG	Disseminate info via internal radio network, logged in blotter report
	Det 5, HQ AFWA	Monitor Lightning Detection System. If criteria (Ltng w/in 5) is met, stow antennas and cease ops

<b>Watch Criteria</b>		
	<b>Customer</b>	<b>Customer Actions</b>
	Det 4, Kaena Pt	No action necessary
	15 LRD/LGRFI Fuels	Notifies all fuels personnel/section and records all pertinent information
	HIANG	Notify aircraft flying in the local area via UHF. Notify all flying squadron OPS and SOF, also notify Alert Pad. Notify 169 ACWS and 201 CCG who will push to outside agencies. Modify mission profiles, cancel some flight operations.
	USARPAC	Watch received through EAC who notifies Tripler Army Medical Center and Ft Derussy. Actions include but are not limited to: no action at all, curtail/modify training, cancels training, and restricts operations. Installation operations center will determine the correct action for each individual situation depending on location and severity of weather.
	15 CES/ Cust Service	Notify all personnel for situational awareness
<b>Heavy Rain, 2" or greater in 4 hrs</b>	15 AW/CP	Send message over ENS, notify MOC who calls it over the radio to the internal network, and log the message.
	Det 1, 15MSG	Disseminate info via internal radio network, logged in blotter report
	Det 5, HQ AFWA	No action necessary
	Det 4, Kaena Pt	No action necessary
	15 LRD/LGRFI Fuels	Notifies all fuels personnel/section and records all pertinent information
	HIANG	Notify aircraft flying in the local area via UHF. Notify all flying squadron OPS and SOF, also notify Alert Pad. Notify 169 ACWS and 201 CCG who will push to outside agencies. Modify mission profiles, cancel some flight operations.

Watch Criteria		
	<b>Customer</b>	<b>Customer Actions</b>
	USARPAC	Watch received through EAC who notifies Tripler Army Medical Center and Ft Derussy. Actions include but are not limited to: no action at all, curtail/modify training, cancels training, and restricts operations. Installation operations center will determine the correct action for each individual situation depending on location and severity of weather.
	15 CES/ Cust Service	Notify all personnel for situational awareness
<b>Hail, 1/2" or greater</b>	15 AW/CP	Send message over ENS, notify MOC who calls it over the radio to the internal network, and log the message.
	Det 1, 15MSG	Disseminate info via internal radio network, logged in blotter report
	Det 5, HQ AFWA	No action necessary
	Det 4, Kaena Pt	No action necessary
	15 LRD/LGRFI Fuels	Notifies all fuels personnel/section and records all pertinent information
	HIANG	Notify aircraft flying in the local area via UHF. Notify all flying squadron OPS and SOF, also notify Alert Pad. Notify 169 ACWS and 201 CCG who will push to outside agencies. Modify mission profiles, cancel some flight operations.
	USARPAC	Watch received through EAC who notifies Tripler Army Medical Center and Ft Derussy. Actions include but are not limited to: no action at all, curtail/modify training, cancels training, and restricts operations. Installation operations center will determine the correct action for each individual situation depending on location and severity of weather.
	15 CES/ Cust Service	Notify all personnel for situational awareness

<b>Watch Criteria</b>		
	<b>Customer</b>	<b>Customer Actions</b>
<b>Winds 45kts or greater</b>	15 AW/CP	Send message over ENS, notify MOC who calls it over the radio to the internal network, and log the message.
	Det 1, 15MSG	Disseminate info via internal radio network, logged in blotter report
	Det 5, HQ AFWA	Monitor wind sensor. If criteria (>40kts) met stow antennas and cease ops
	Det 4, Kaena Pt	Cease outdoor operations for personnel
	15 LRD/LGRFI Fuels	Notifies all fuels personnel/section and records all pertinent information
	HIANG	Notify aircraft flying in the local area via UHF. Notify all flying squadron OPS and SOF, also notify Alert Pad. Notify 169 ACWS and 201 CCG who will push to outside agencies. Modify mission profiles, cancel some flight operations.
	USARPAC	Watch received through EAC who notifies Tripler Army Medical Center and Ft Derussy. Actions include but are not limited to: no action at all, curtail/modify training, cancels training, and restricts operations. Installation operations center will determine the correct action for each individual situation depending on location and severity of weather.
	15 CES/ Cust Service	Notify all personnel for situational awareness
<b>Warning Criteria</b>		
<b>Tornado/Funnel Cloud/ Waterspout</b>	15 AW/CP	Send message over ENS, notify MOC who calls it over the radio to the internal network, and log the message. OPREP-3 reportable, relocate if necessary
	Det 1, 15MSG	Disseminate info via internal radio network, logged in blotter report. Take cover as necessary.
	Det 5, HQ AFWA	Stow Antennas, Cease Operations
	Det 4, Kaena Pt	Take necessary safety precautions for personnel

Watch Criteria		
	Customer	Customer Actions
	15 LRD/LGRFI Fuels	Notifies all fuels personnel/section and records all pertinent information
	HIANG	Notify aircraft flying in the local area via UHF. Notify all flying squadron OPS and SOF, also notify Alert Pad. Notify 169 ACWS and 201 CCG who will push to outside agencies. Modify mission profiles, cancel some flight operations.
	USARPAC	Watch received through EAC who notifies Tripler Army Medical Center and Ft Derussy. Actions include but are not limited to: no action at all, curtail/modify training, cancels training, and restricts operations. Installation operations center will determine the correct action for each individual situation depending on location and severity of weather.
	15 CES/ Cust Service	Notify all personnel for situational awareness
<b>Heavy Rain, 2" or greater in 4 hours</b>	15 AW/CP	Send message over ENS, notify MOC who calls it over the radio to the internal network, and log the message.
	Det 1, 15MSG	Disseminate info via internal radio network, logged in blotter report. Make necessary safety precautions.
	Det 5, HQ AFWA	No action necessary
	Det 4, Kaena Pt	No action necessary
	15 LRD/LGRFI Fuels	Notifies all fuels personnel/section and records all pertinent information
	HIANG	Notify aircraft flying in the local area via UHF. Notify all flying squadron OPS and SOF, also notify Alert Pad. Notify 169 ACWS and 201 CCG who will push to outside agencies. Modify mission profiles, cancel some flight operations.

Watch Criteria		
	<b>Customer</b>	<b>Customer Actions</b>
	USARPAC	Watch received through EAC who notifies Tripler Army Medical Center and Ft Derussy. Actions include but are not limited to: no action at all, curtail/modify training, cancels training, and restricts operations. Installation operations center will determine the correct action for each individual situation depending on location and severity of weather.
	15 CES/ Cust Service	Notify all personnel for situational awareness
<b>Hail, 1/2" or greater</b>	15 AW/CP	Send message over ENS, notify MOC who calls it over the radio to the internal network, and log the message.
	Det 1, 15MSG	Disseminate info via internal radio network, logged in blotter report. Make necessary safety precautions.
	Det 5, HQ AFWA	No action necessary
	Det 4, Kaena Pt	No action necessary
	15 LRD/LGRFI	Notifies all fuels personnel/section and records all pertinent information
	HIANG	Notify aircraft flying in the local area via UHF. Notify all flying squadron OPS and SOF, also notify Alert Pad. Notify 169 ACWS and 201 CCG who will push to outside agencies. Modify mission profiles, cancel some flight operations.
	USARPAC	Watch received through EAC who notifies Tripler Army Medical Center and Ft Derussy. Actions include but are not limited to: no action at all, curtail/modify training, cancels training, and restricts operations. Installation operations center will determine the correct action for each individual situation depending on location and severity of weather.
	15 CES/ Cust Service	Notify all personnel for situational awareness

Watch Criteria		
	<b>Customer</b>	<b>Customer Actions</b>
<b>Winds 45 knots or greater</b>	15 AW/CP	Send message over ENS, notify MOC who calls it over the radio to the internal network, and log the message.
	Det 1, 15MSG	Disseminate info via internal radio network, logged in blotter report. Make necessary safety precautions.
	Det 5, HQ AFWA	Monitor wind sensor. When criteria (>40kts) is met, stow antennas and cease operations
	Det 4, Kaena Pt	No action necessary
	15 LRD/LGRFI Fuels	Notifies all fuels personnel/section and records all pertinent information
	HIANG	Notify aircraft flying in the local area via UHF. Notify all flying squadron OPS and SOF, also notify Alert Pad. Notify 169 ACWS and 201 CCG who will push to outside agencies. Modify mission profiles, cancel some flight operations.
	USARPAC	Watch received through EAC who notifies Tripler Army Medical Center and Ft Derussy. Actions include but are not limited to: no action at all, curtail/modify training, cancels training, and restricts operations. Installation operations center will determine the correct action for each individual situation depending on location and severity of weather.
	15 CES/ Cust Service	Notify all personnel for situational awareness
<b>Lightning/Thunderstorm w/in 5 nm</b>	15 AW/CP	Send message over ENS, notify MOC who calls it over the radio to the internal network, and log the message. OPREP-3 reportable, relocate if necessary
	Det 1, 15MSG	Disseminate info via internal radio network, logged in blotter report. Take cover and Make necessary safety precautions.

Watch Criteria		
	<b>Customer</b>	<b>Customer Actions</b>
	Det 5, HQ AFWA	Monitor Lightning Detection System. If criteria (Ltng w/in 5) is met, stow antennas and cease ops
	Det 4, Kaena Pt	No action necessary
	15 LRD/LGRFI Fuels	Notifies all fuels personnel/section and records all pertinent information
	HIANG	Notify aircraft flying in the local area via UHF. Notify all flying squadron OPS and SOF, also notify Alert Pad. Notify 169 ACWS and 201 CCG who will push to outside agencies. Modify mission profiles, cancel some flight operations.
	USARPAC	Watch received through EAC who notifies Tripler Army Medical Center and Ft Derussy. Actions include but are not limited to: no action at all, curtail/modify training, cancels training, and restricts operations. Installation operations center will determine the correct action for each individual situation depending on location and severity of weather.
	15 CES/ Cust Service	Notify all personnel for situational awareness

**Table A6.3. Customer Response Matrix – Johnston Atoll**

Customer Response Matrix		
Johnston Atoll		
	Customer	Customer Actions
<b>Warning Criteria</b>		
<b>Heavy Rain, 2" or greater in 4 hours</b>	Det 1, 15 AW	Notify all agencies through CCs, Directors, and Chiefs via telephone. Through DET/DOA, ensure UNICOM advises all inbound/outbound aircraft. Through DET/LG, ensure port control advises all inbound/outbound sea vessels. If deemed necessary and at DET/CC direction, make island-wide notification via the Island Warning System.
	15 AW/CP	Logged, No action necessary
	USARPAC	Notify any personnel who may be operating on Johnston Island. Leadership will make decision on response considering severity of situation.
<b>Winds 35 knots or greater</b>	Det 1, 15 AW	Notify all agencies through CCs, Directors, and Chiefs via telephone. Through DET/DOA, ensure UNICOM advises all inbound/outbound aircraft. Through DET/LG, ensure port control advises all inbound/outbound sea vessels. If deemed necessary and at DET/CC direction, make island-wide notification via the Island Warning System.
	15 AW/CP	Logged, No action necessary
	USARPAC	Notify any personnel who may be operating on Johnston Island. Leadership will make decision on response considering severity of situation.

**Attachment 7**  
**WDPN BULLETIN**

EXAMPLE EXAMPLE EXAMPLE

**Example**

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WDPN PJON 311000

TROPICAL CYCLONE FORECAST FOR JOHNSTON ATOLL HURRICANE 03C  
(HUKO) AS FORECAST BY CPHC/JTWC BULLETIN 27 31/0600Z.

A. WIND FORECAST:

31/1200Z 050/25G35	01/1500Z	080/25G35
31/1500Z 070/35G45	01/1800Z	090/20G30
31/1800Z 050/40G50	02/0000Z	100/20G30
01/0000Z 040/45G60	02/0300Z	100/20G30
01/0300Z 040/40G50	02/0300Z	100/15G25
01/0900Z 060/30G40	02/0600Z	100/10G20

B. ONSET/DURATION OF 15KT CROSSWIND: 31/1800Z FOR 5HRS; 01/1800Z FOR 27HRS.

C. ONSET/DURATION OF 25KT CROSSWIND: NONE.

D. ONSET/DURATION/SPEED OF 50KT WINDS: 01/02Z FOR 4HRS.

E. ONSET/DURATION/SPEED OF DESTRUCTIVE WINDS: 01/02Z FOR 4HRS/50KTS.

F. MAXIMUM SUSTAINED WINDS: 45KTS.

G. PEAK WINDS: 60KTS AT 01/0400Z.

H. CPA: 136NM S AT 01/04Z.

REMARKS: ADDITIONAL QUESTIONS, PLEASE CONTACT 17OWS @ 449-8335/8332.

EXAMPLE EXAMPLE EXAMPLE

Attachment 8

EXAMPLE WEB VIEW OF 17 OWS WEATHER WARNINGS, WATCHES AND ADVISORIES.

Figure A8.1. Example Web View of 17 OWS Weather Warnings, Watches, and Advisories

Address: https://17ows.hickam.af.mil/www/index.cfm?fuseaction=AllAdvisories&UNIT\_ID=none&bandwidth=10&acr=1&oc=014928

## 17th Operational Weather Squadron

Aircrew   Meteorologist   Forecast Funnel   Local Weather   Links   Change ACR   Feedback

HOME > METEOROLOGIST > TEXT   PACOM

All Regions   09/23/2003 2344Z

STATUS	ZONE/LOCATION	NTF-S	US/CG	CRITERIA	FCST VALUE	VALID(Y)
EXPIRING	1-Andersen AFB	09-032	Watch	Lightning/Thunderstorm within 5nm	NA	23/1700-240000
ACTIVE	1-Hickam AFB	09-012	Advisory	Thunderstorms in the ADIZ	N/A	23/1214-UFN

Home   Support   FAQ   Site Map   Updated: 23 Sep 2003

This web site is maintained by the 17th OWS Webmaster | 17th OWS | 25 E Street | Hickam AFB, Hawaii | OSH 449-9225 or COM (900) 449-9225 | Web Version 5.2.0

Attachment 9

**SUPPORTED AIRCRAFT GENERAL CHARACTERISTICS & WEATHER SENSITIVITIES**  
**(For aircraft with home-station of Hickam AFB)**

Figure A9.1. C-130H (Hercules)

C-130H (Hercules)

- Unit Supported: 204 AS (HIANG)



<b>Aircraft:</b> C-130H		<b>Name:</b> Hercules										
<b>Manufacturer:</b> Lockheed Martin		<b>Category Aircraft:</b> II										
<b>Primary Mission:</b> Tactical and intra-theater airlift, airlift and combat control												
<b>Power Plant:</b> Four Allison T56-A-15 turboprop engines												
<b>Thrust:</b> 4,508 hp per engine						<b>Max Speed:</b> 315 Kts (.48 mach)						
<b>Max Range:</b> 2,500 NM						<b>Ceiling:</b> 33,000 feet						
<b>Length:</b> 97 feet, 9 inches						<b>Height:</b> 38 feet, 3 inches						
<b>Wing Span:</b> 132 feet, 7 inches						<b>Max Take-off Weight:</b> 155,000 pounds						
<b>Crew:</b> Five												
<b>Payload:</b> 92 troops or 64 paratroops or 74 litter patients plus attendants or 54 passengers on palletized seating, or 5 standard freight pallets												
<b>Weather Sensitivities:</b>												
<b>Max X-Wind Comp:</b> 35Kts												
<b>RCR</b>	2	3	4	5	6	7	8	9	10	11	12-23	
<b>Max X-Wind for RCR #:</b>	0	2	5	7	10	12	15	17	20	22	25-35	
<b>Induction Icing Thresholds:</b>												
<b>Icing:</b> Will avoid SVR						<b>Turbulence:</b> Will avoid areas of SVR						
<b>Lightning/TSTMS:</b> Avoid by 10NM below FL250, 20NM at and above						<b>In-Flight Refueling:</b> No capability						
<b>Radar:</b> Weather radar installed												
<b>Remarks:</b> Potential for lightning must be briefed. Crew may request drop-zone forecasts												

Figure A9.2. KC135E/R

**KC135E/R**

- Unit Supported: 203 ARS (HIANG)



<b>Aircraft:</b> KC-135E/R		<b>Name:</b> Stratotanker	
<b>Manufacturer:</b> Boeing		<b>Category Aircraft:</b> II	
<b>Primary Mission:</b> In-flight refueling and medium-range transport, Airlift			
<b>Power Plant:</b> Four CFM International CFM-F108-CF-100 turbofan engines			
<b>Thrust:</b> 22,224 pounds per engine		<b>Max Speed:</b> 461 Kts (.70 mach)	
<b>Max Range:</b> 9,572 NM / 4,100NM E-model		<b>Ceiling:</b> 50,000 feet	
<b>Length:</b> 136 feet, 3 inches		<b>Height:</b> 41 feet, 8 inches	
<b>Wing Span:</b> 130 feet, 10 inches		<b>Max Take-off Weight:</b> 322,500 pounds	
<b>Crew:</b> Four			
<b>Payload:</b> 200,000 pounds of transfer fuel and 57 passengers or max cargo payload of 83,000 pounds			
Weather Sensitivities			
<b>Max X-Wind Comp:</b> 25Kts			
<b>RCR</b>	0 to 5	6 to 8	> 8
<b>Max X-Wind for RCR #:</b>	No Ops	20 (waiver required)	20
<b>Induction Icing Thresholds:</b> Engine anti-icing must be used with temperatures below 50°F with visible moisture			
<b>Icing:</b> May operate for 10 minutes in MDT; never in observed or forecast SVR. For E model, engine anti-icing must be used when the temperature is between 0°F and 50°F with visible moisture; For R model, engine anti-icing must be used with temperatures below 40°F with visible moisture (anti-icing equipment is not designed for freezing rain).		<b>Turbulence:</b> Will avoid areas of SVR	
<b>Lightning/TSTMS:</b> Avoid by 10NM below FL230 and 20NM at and above		<b>In-Flight Refueling:</b> Vsby ≥ 1NM	
<b>Radar:</b> Limited			
<b>Remarks:</b> Cannot Take-off >.5 inches of slush or water on the runway. Pilots may need height/temp of tropopause and temp at flight level. Crew may need Aerial Refueling (AR) route forecast. AR orbit altitude 22,000 to 24,000 feet			

Figure A9.3. C-20F

**C-20F**

- Unit Supported: USAG-HI Flt Det



<b>Aircraft:</b> C-20		<b>Name:</b> Gulfstream IV									
<b>Manufacturer:</b> Gulfstream Aerospace		<b>Category Aircraft:</b> II									
<b>Primary Mission:</b> Executive airlift											
<b>Power Plant:</b> Two Rolls-Royce Spey MK511-8 turbofan engines											
<b>Thrust:</b> 11,400 pounds per engine						<b>Max Speed:</b> 501 Kts (.76 mach)					
<b>Max Range:</b> 5,000 NM						<b>Ceiling:</b> 45,000 feet					
<b>Length:</b> 83 feet, 2 inches						<b>Height:</b> 24 feet, 6 inches					
<b>Wing Span:</b> 77 feet, 10 inches						<b>Max Take-off Weight:</b> 69,700 pounds					
<b>Crew:</b> Five											
<b>Payload:</b> 14 passengers											
<b>Weather Sensitivities</b>											
<b>Max X-Wind Comp:</b> 24 Kts											
<b>RCR</b>	2	3	4	5	6	7	8	9	10	11	12-23
<b>Max X-Wind for RCR #:</b>	0	2	5	7	10	12	15	17	20	22	30
<b>Min RVR:</b> 1600											
<b>Induction Icing Thresholds:</b>											
<b>Icing:</b> May operate in MDT						<b>Turbulence:</b> May operate in MDT					
<b>Lightning/TSTMS:</b> Avoid by 10NM below FL230, 20NM at and above						<b>In-Flight Refueling:</b> No Capability					
<b>Radar:</b> Weather radar installed											
<b>Remarks:</b> Can be used for medical evacuation with accommodations for 15 liters and attendants											

Figure A9.4. C-37A

**C-37 A**  
Unit Supported 65 AS



<b>Aircraft:</b> C-37A		<b>Name:</b> Gulfstream V		
<b>Manufacturer:</b> Gulfstream Aerospace		<b>Category Aircraft:</b> II		
<b>Primary Mission:</b> Special Airlift Mission (SAM) transport				
<b>Power Plant:</b> Two BMW-Rolls Royce BR710A1-10 turbofan engines				
<b>Thrust:</b> 14,900 pounds per engines		<b>Max Speed:</b> 610 Kts (.80 mach)		
<b>Max Range:</b> 7,485 NM		<b>Ceiling:</b> 51,000 feet		
<b>Length:</b> 96 feet, 5 inches		<b>Height:</b> 25 feet, 10 inches		
<b>Wing Span:</b> 93 feet, 6 inches		<b>Max Take-off Weight:</b> 90,500 pounds		
<b>Crew:</b> Five				
<b>Payload:</b> 12 passengers				
<b>Weather Sensitivities</b>				
<b>Max X-Wind Comp:</b> 30Kts				
<b>RCR</b>	0 to 5	6 to 8	> 8	
<b>Max X-Wind for RCR #:</b>	No Ops	15	20	
<b>Induction Icing Thresholds:</b>				
<b>Icing:</b> May operate in MDT for short periods		<b>Turbulence:</b> May operate in MDT		
<b>Lightning/TSTMS:</b> Avoid by 10NM below FL230, 20NM at and above		<b>In-Flight Refueling:</b> No capability		
<b>Radar:</b> Weather radar installed				
<b>Remarks:</b>				

Figure A9.5. C-40

## 4.7.1.4. C-40

Unit Supported: 65 Airlift Squadron

<b>Aircraft:</b> C-40		<b>Name:</b>										
<b>Manufacturer:</b> Boeing		<b>Category Aircraft:</b> II										
<b>Primary Mission:</b> Executive airlift												
<b>Power Plant:</b>												
<b>Thrust:</b>		<b>Max Speed:</b> 550 Kts										
<b>Max Range:</b> 5,000 NM		<b>Ceiling:</b> 45,000 feet										
<b>Length:</b>		<b>Height:</b>										
<b>Wing Span:</b>		<b>Max Take-off Weight:</b>										
<b>Crew:</b> Five												
<b>Payload:</b>												
Weather Sensitivities												
<b>Max X-Wind Comp:</b> 25 Kts												
<b>RCR</b>	2	3	4	5	6	7	8	9	10	11	12-23	
<b>Max X-Wind for RCR #:</b>	0	2	5	7	10	12	15	17	20	22	25	
<b>Min RVR:</b> 1600												
<b>Induction Icing Thresholds:</b>												
<b>Icing:</b> May operate in MDT						<b>Turbulence:</b> May operate in MDT						
<b>Lightning/TSTMS:</b> Avoid by 10NM below FL230, 20NM at and above						<b>In-Flight Refueling:</b> No Capability						
<b>Radar:</b> Weather radar installed												
<b>Remarks:</b>												

Figure A9.6. F15 (Eagle)

## 4.7.1.5. F15 (Eagle)

- Unit Supported: 199 FS (HIANG)



<b>Aircraft:</b> F-15	<b>Name:</b> Eagle
<b>Manufacturer:</b> McDonnell Douglas	<b>Category Aircraft:</b> II
<b>Primary Mission:</b> Air superiority fighter	
<b>Power Plant:</b> Two Pratt & Whitney F100-PW-229 turbofan engines with afterburners	
<b>Thrust:</b> 25,000 pounds per engine	<b>Max Speed:</b> 1,629+ Kts (2.5 mach+)
<b>Max Range:</b> 1,800 NM	<b>Ceiling:</b> 65,000 feet
<b>Length:</b> 63 feet, 9 inches	<b>Height:</b> 18 feet, 8 inches
<b>Wing Span:</b> 42 feet, 10 inches	<b>Max Take-off Weight:</b> 68,000 pounds
<b>Crew:</b> One	
<b>Payload:</b> One internally mounted M-61A1 20mm 20-mm, six-barrel cannon with 940 rounds of ammunition; four AIM-9L/M Sidewinder and four AIM-7F/M Sparrow air-to-air missiles, or eight AIM-120 AMRAAMs, carried externally	
Weather Sensitivities	
<b>Max X-Wind Comp:</b> 30Kts (for for dry runway)	
<b>RCR</b>	
<b>Max X-Wind for RCR #:</b>	
<b>Induction Icing Thresholds:</b>	
<b>Icing:</b> May penetrate, no loitering	<b>Turbulence:</b> Avoid MDT/SVR
<b>Lightning/TSTMS:</b> Avoid if possible	<b>In-Flight Refueling:</b> Vsby $\geq$ 1NM
<b>Radar:</b> Weather radar installed	
<b>Remarks:</b>	

Figure A9.7. C-17 (Globemaster III)

4.7.1.6. C-17 (Globemaster III)

- Unit Supported: 15<sup>th</sup> Airlift Wing



<b>Aircraft:</b> C-17		<b>Name:</b> Globemaster III	
<b>Manufacturer:</b> McDonnell-Douglas		<b>Category Aircraft:</b> II	
<b>Primary Mission:</b> Long range, multi-role heavy airlift			
<b>Power Plant:</b> Four Pratt & Whitney F117-PW-100 turbofan engines			
<b>Thrust:</b> 40,400 pounds per engine		<b>Max Speed:</b> 500 Kts (.77 mach)	
<b>Max Range:</b> 5,093 NM		<b>Ceiling:</b> 45,000 feet	
<b>Length:</b> 174 feet		<b>Height:</b> 55 feet, 1 inch	
<b>Wing Span:</b> 169 feet, 10 inches		<b>Max Take-off Weight:</b> 585,000 pounds	
<b>Crew:</b> Three			
<b>Payload:</b> One M-1 Main Battle Tank or up to three AH-64 Apache attack helicopters or 102 paratroops, or 100 passengers, or 48 litters for medical evacuation, or eighteen 463L pallets			
Weather Sensitivities			
<b>Max X-Wind Comp:</b> 25Kts			
<b>RCR</b>			
<b>Max X-Wind for RCR #:</b>			
<b>Induction Icing Thresholds:</b>			
<b>Icing:</b> May operate in areas of MDT		<b>Turbulence:</b> May operate in areas of MDT, but may not operate in MDT Mountain Wave	
<b>Lightning/TSTMS:</b> Avoid by 10NM below FL230, 20NM at and above (TEMPO – must avoid by 50 NM)		<b>In-Flight Refueling:</b> FL220 to FL270, vsby ≥ 1NM	
<b>Radar:</b> Weather radar installed			
<b>Remarks:</b> Cannot operate in either observed or forecast SVR turbulence. Crew may ask for Aerial Refueling (AR) route forecasts			

## Attachment 10

## WEATHER DISSEMINATION FORMATS

## Figure A10.1. Weather Dissemination Formats

## 1. LOCAL DISSEMINATION FORMATS.

NOTE: Formats may differ slightly when relayed by telephone. Terminology is similar whether data is disseminated by BAAF or WAAF forecasters.

## A. OBSERVATION FORMAT.

PHHI METAR 1955Z 06009KT 050V120 6 RA FEW017 BKN080 OVC250 21/19 ALSTG 30.05 RMK PA +718 DA +1869 55/SB

- PHHI Station identifier
- METAR Type of observation
- 1955Z Time of observation
- 060 Wind direction 60 degrees (magnetic)
- 09KT Wind speed (knots)
- 050V120 Wind variability when speed is  $\geq 7$  knots
- 6 Prevailing visibility (nm)
- RA Weather and obstructions to vision
- FEW017 Lowest cloud layer with height in hundreds of feet up to 5,000 ft
- BKN080 Next cloud layer with height in closest five hundred ft up to 10,000 ft
- OVC250 Next cloud layer with height in closest thousand ft
- 21/19 Current temperature and dew point ° Celsius
- ALSTG 30.05 Current altimeter
- RMK Remarks section for significant information
- PA +717 Pressure altitude to nearest ft
- DA +1869 Density altitude to nearest ft
- 55 Time of observation transmission
- SB Observer's initials

## Cloud Layer Definitions:

- OVC: Overcast (8/8 sky covered)
- BKN: Broken (5/8-7/8) sky covered)
- SCT: Scattered (3/8-4/8 sky covered)
- FEW: (1/8-2/8 sky covered)

## Local Observation Examples

PHNL LOCAL 1930Z 30.25 RMK ESTMD ALSTG PA +534 31/TBL

PHNL LOCAL 1930Z 05016KT 7 VCSH FEW018 SCT030 21/17 ALSTG 30.25 RMK ESTMD ALSTG PA +534 DA +1608 34/TBL

## Special Observation Examples

(Figure continued on the next page)

Figure A10.1. Continued

PHNL SPECI 2025Z 07018G32KT 3 SHRA FEW005 BKN015 OVC080 19/19 ALSTG 30.03 RMK PA +736 DA +1661 25/MD

PHNL SPECI 1930Z ALSTG M RMK TORNADO SW MOV NE PA M 33/TLB

WEATHER PHENOMENA CODE TABLE.

Qualifier		Weather Phenomena		
Intensity	Descriptor	Precipitation	Obscuration	Other
- Light	MI Shallow	DZ Drizzle	BR Mist	PO Well Developed Dust/Sand Whirls
Moderate	PR Partial	RA Rain	FG Fog	SQ Squall
+ Heavy	BC Patches	SN Snow	FU Smoke	FC Funnel Cloud, Tornado, or Water Spout
VC Vicinity	DR Low Drifting	SG Snow Grains	VA Volcanic Ash	SS Sand Storm
	BL Blowing	IC Ice Crystals	DU Dust	DS Dust Storm
	SH Showers	PL Ice Pellets	SA Sand	
	TS Thunderstorm	GR Hail	HZ Haze	
	FZ Freezing	GS Small Hail or Snow Pellets	PY Spray	
		UP Unknown Precipitation		

B. FORECAST FORMAT.

PHHI FCST 16-16 05008KT 7 VCSH FEW020 SCT030 BKN250 LGT TURB SFC-050 ALSTG30.07INS

BECMG 09-10 04005KT 7 -SHRA FEW018 BKN030 BKN250 TEMP 28C AT 2300Z ALSTG30.05INS 10/JS

- PHHI Station identifier
- FCST Forecast
- 16-16 Valid from 16 Zulu to 16 Zulu (24 hour forecast)
- 050 Wind direction 60 degrees (magnetic)
- 08KT Wind speed (knots)
- 7 Prevailing visibility
- FEW020 Cloud layer forecast few at 2,000 ft
- SCT030 Cloud layer forecast scattered at 3,000 ft
- BKN250 Cloud layer forecast broken (ceiling) at 25,000 ft
- TEMP 28C Maximum temperature forecast
- AT 2300Z Time of maximum temperature
- LGT TURBC Light turbulence (for Cat 2 aircraft)
- SFC-050 Surface to 5,000 ft (AGL)
- ALSTG Minimum altimeter

(Figure continued on the next page)

**Figure A10.1. Continued**

• 30.07	Altimeter
• INS	Inches of mercury
• VCSH	Showers in vicinity (between 5 to 10 miles of station)
• BECMG	Forecast becoming group
• 09-10	Valid time (Zulu)
• 040	Wind direction 040 degrees (magnetic)
• 5KT	Wind speed 5 knots
• 7	Prevailing visibility
• -SHRA	Light rain showers
• FEW018	Cloud layer forecast few at 1,800 ft
• BKN030	Cloud layer forecast broken (ceiling) at 3,000 ft
• BKN250	Cloud layer forecast broken at 25,000 ft
• TEMP 20C	Minimum forecast temperature
• AT 1500Z	Time of minimum forecast temperature
• ALSTG	Minimum altimeter
• 30.05	Altimeter forecast
• INS	Inches of mercury
• JS	Forecaster's initials

**C. PILOT REPORTS FORMAT.**

PHHI PIREP TIME 1930 PHHI360005 FL 030 TP UH1 SK BKN040-UNKN WX FV99SM TA 20  
WND36010 TURB NEG ICE NEG RMRK SHRA E;

• PHHI	Station identifier
• PIREP	Pilot Report
• TIME 1930	Time (Zulu) the phenomena occurred or encountered
• PHHI	Location reference to phenomena occurring
• 360	Radian
• 005	Distance in miles
• FL	Flight level
• 030	3,000 ft (MSL)
• TP	Type
• UH1	Aircraft
• SK	Sky condition
• 040	Cloud base 4,000 ft (MSL)
• BKN	Broken cloud layer
• UNKN	Unknown height of cloud tops
• WX	Weather
• FV	Flight visibility
• 99	Unrestricted visibility
• SM	Statute miles
• TA	Temperature at flight level
• 20	Temperature (C)
• WND	Wind
• 360	Wind direction 360 degrees (true)
• 10	Wind speed 10 knots

**(Figure continued on the next page)**

**Figure A10.1. Continued**

- TURB Turbulence
- NEG Negative
- ICE Icing
- NEG Negative
- RMRK Remarks
- SHRA Rain showers
- E East

**D. WEATHER WATCH, WARNING AND ADVISORY FORMATS****WARNINGS** (examples of standard formatting)

(LOCATION) WEATHER WARNING MM-###  
VALID \_\_\_\_ TO \_\_\_\_

TORNADO WITHIN 5 NM OF (LOCATION) EXPECTED.  
WEATHER WATCH # \_\_\_\_ REMAINS IN EFFECT.

HAIL, 1/2" OR GREATER AT (LOCATION) EXPECTED. MAX SIZE \_\_\_\_".  
WEATHER WATCH # \_\_\_\_ REMAINS IN EFFECT.

HEAVY RAIN, 2" OR GREATER IN 4 HRS AT (LOCATION) EXPECTED. MAX AMOUNT  
\_\_\_\_". WEATHER WATCH # \_\_\_\_ REMAINS IN EFFECT.

WINDS 45 KTS OR GREATER AT (LOCATION) EXPECTED. MAX WINDS \_\_\_\_ KTS.  
WEATHER WATCH # \_\_\_\_ REMAINS IN EFFECT.

LIGHTNING WITHIN 5 NM OF (LOCATION) OBSERVED. WEATHER WATCH # \_\_\_\_  
REMAINS IN EFFECT.

**WATCHES**

(LOCATION) WEATHER WATCH MM-###  
VALID \_\_\_\_ TO \_\_\_\_

POTENTIAL FOR TORNADO WITHIN 5 NM OF HICKAM AFB EXISTS. A WARNING  
WILL BE ISSUED LATER IF REQUIRED.

POTENTIAL FOR HAIL, 1/2" OR GREATER AT HICKAM AFB EXISTS. A WARNING  
WILL BE ISSUED LATER IF REQUIRED.

POTENTIAL FOR HEAVY RAIN, 2" OR GREATER IN 4 HRS AT HICKAM AFB EXISTS.  
A WARNING WILL BE ISSUED LATER IF REQUIRED.

POTENTIAL FOR WINDS 45 KTS OR GREATER AT HICKAM AFB EXISTS. A WARNING  
WILL BE ISSUED LATER IF REQUIRED.

POTENTIAL FOR LIGHTNING WITHIN 5 NM OF HICKAM AFB EXISTS. A WARNING  
WILL BE ISSUED LATER IF REQUIRED.

**(Figure continued on the next page)**

**Figure A10.1. Continued****ADVISORIES**

(LOCATION) WEATHER ADVISORY MM-###  
VALID \_\_\_\_ TO \_\_\_\_

WINDS 25-34 KTS AT HICKAM AFB EXPECTED. MAX WIND \_\_\_\_ KTS.

LOW CEILING/VISIBILITY LESS THAN 600'/2 NM AT HICKAM AFB OBSERVED.

THUNDERSTORMS IN THE ADIZ OBSERVED.

CROSSWINDS 25KTS OR GREATER AT HICKAM AFB OBSERVED.